Land Use Plan
Stanly County, North Carolina
June 2002

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Final Report—Draft Recommendations

STANLY COUNTY LAND USE PLAN

Adopted June 24, 2002

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STANLY COUNTY

TABLE OF CONTENTS

TABLE OF CONTENTS (CONTINUED)

LIST OF TABLES

LIST OF FIGURES

SECTION 1: AN INTRODUCTION TO THE STANLY COUNTY LAND USE PLAN

Introduction to the Final Report

The Land Use Plan for Stanly County updates the 1977 Land Use Analysis and Development Plan that was prepared for the Board of Commissioners by the County Planning Board and County Planning Department. While the 1977 plan provided an adequate planning and infrastructure decision-making tool for county officials and the public, changes in county development patterns necessitate an update.

Stanly County and the rest of the Yadkin-Pee Dee Lakes region have a reputation as a place of wonderful natural beauty, from the lakes and rivers of eastern Stanly County, to the "rolling Kansas" district of Millingport, to the Uwharrie Mountains near Morrow Mountain State Park. The steady rise in population over the years verifies Stanly County's livability and reputation as an excellent place to live, work, and play. The county remains one of the leading agricultural counties in North Carolina. The agricultural economy has for decades been augmented by a strong industrial sector based on the textile and aluminum industries, among others. In addition, tourism has emerged as an important industry for the county.

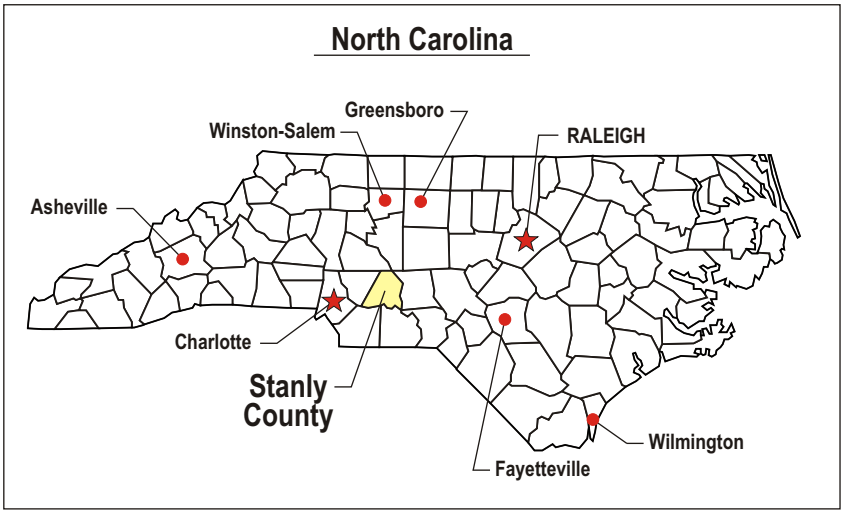
Today Stanly County lies at the edge of the growing Charlotte metropolitan region, a region that now extends into Cabarrus and Union Counties, both of which share Stanly County's western border. While indications are already apparent that parts of western Stanly County are experiencing increased development activity, it is expected that major infrastructure projects—among them the completion of the eastern leg of the Interstate 485 Charlotte by-pass, and the widening of NC 24/27 to four lanes from the county line to Albemarle—will speed the rate of development and growth in the county.

As the citizens of Mecklenburg, Cabarrus, and Union Counties will attest, growth has not come without problems. Additional homes bring more traffic. More people and businesses can strain public infrastructure systems. Schools are required to accommodate an increased school-age population. In the process, some of the qualities that point to the county's livability have increasingly been subject to change. Stanly County's leaders have recognized the importance of a proactive stance to county development in order to maintain a high quality of life and to promote appropriate development.

The central purpose of the Land Use Plan is to provide an update to the 1977 Land Use Analysis and Development Plan and to identify and guide desired growth through a well-reasoned set of land use and county development plans and implementation policies. The plan will provide a framework for making planning and zoning decisions, promoting orderly land use, implementing public improvements, and generating private investment. Further, the Land Use Plan outlines a vision of where the residents of Stanly County want to be in the future and provides a detailed implementation strategy to achieve that vision. With this plan, decision-makers will be able to make day-to-day planning decisions that promote orderly long-term development and represent the views of the citizens of the county.

Regional Location of Stanly County

Stanly County is located in central North Carolina east of the Charlotte metropolitan region. Albemarle, the county seat of Stanly County, is located 40 miles east of Charlotte. Figure 1-1 illustrates the relative location of Stanly County within the state of North Carolina. Stanly County lies within North Carolina's Piedmont region, an area of flat to rolling terrain situated between the Blue Ridge Mountains to the north and west and the Coastal Plains to the east. Stanly County is one of seven counties within the Yadkin-Pee Dee Lakes Region, a geographical area extending from Salisbury to Rockingham that is focused on the chain-of-manmade lakes of the Yadkin and Pee Dee River. Four of these lakes—Tuckertown Reservoir, Narrows Reservoir, Falls Reservoir, and Tillery Reservoir—define the eastern border of the county.



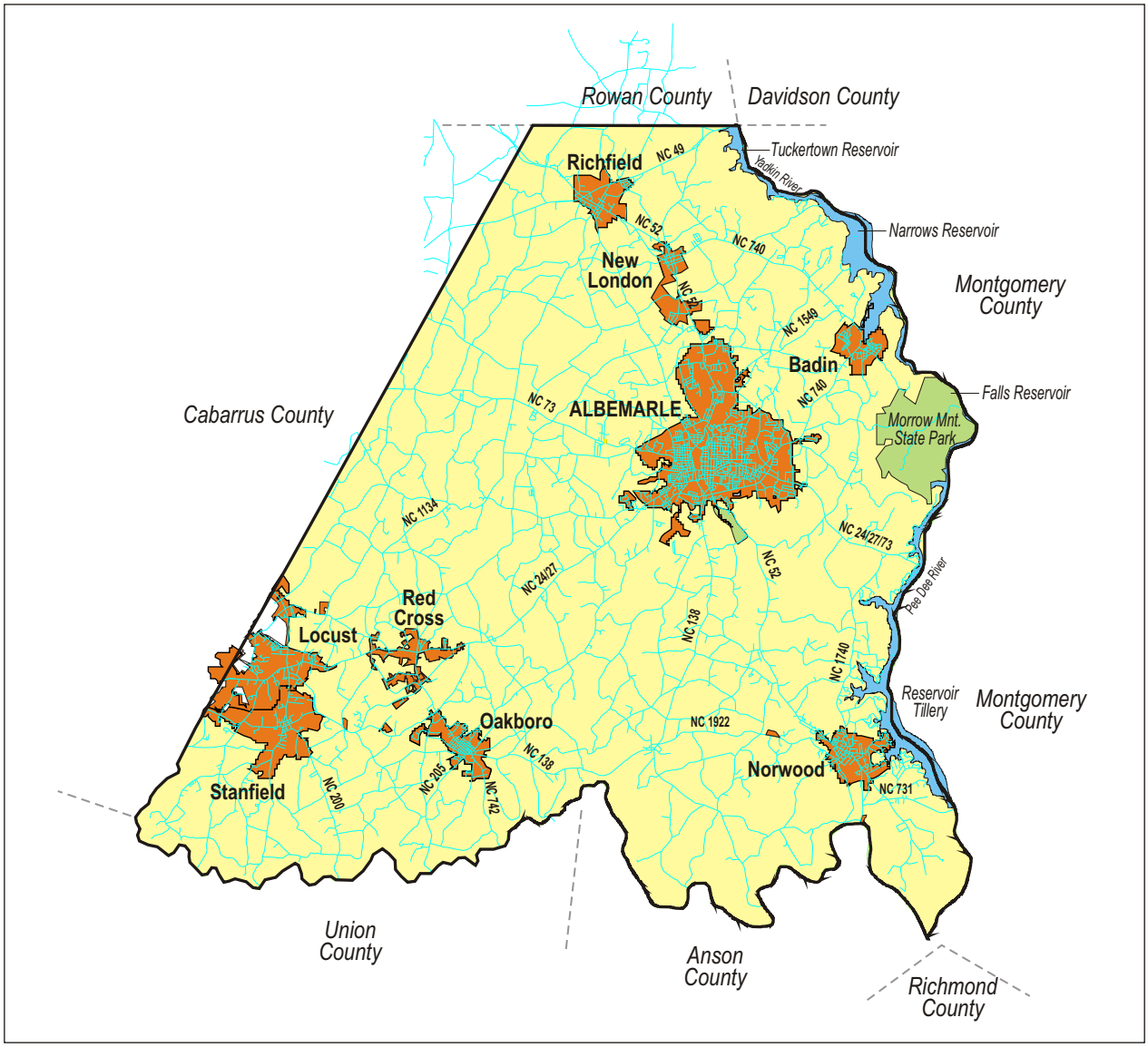


Figure 1-1

Vicinity Map

Land Use Plan

Stanly County, North Carolina

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Stanly County is 399 square miles in area, ranking it as the 64th-largest of North Carolina's 100 counties. While most of Stanly County's land area is used for either farming or is undeveloped forest land, the counties is also home to a number of communities including Albemarle, Badin, Locust, New London, Norwood, Oakboro, Red Cross, Richfield, and Stanfield (see Figure 1-1). With a 2000 population of 58,100, Stanly County ranks as the 42nd–largest county in North Carolina according to the U.S. Census Bureau.

The county is served by a number of major state and federal roadways that link the county to the adjoining region. Among these is NC 24/27, a major east-west roadway that links Albemarle, Locust, and Stanfield with Cabarrus and Mecklenburg Counties as well as the rest of the Charlotte metropolitan region. Another important roadway is U.S. 52, a north-south thoroughfare that links the central part of Stanly County with Salisbury and Interstate 85 to the north and U.S. 74 in Wadeboro in Anson County.

Land Use Plan Study Area

The Land Use Plan study area is indicated in Figure 1-2. The study area includes unincorporated areas of Stanly County outside of municipal extra-territorial jurisdictions, or ETJs. New London, Norwood, Locust, Oakboro, Richfield, and Stanfield have exercised ETJs. All totaled, the study area includes 174,360 acres of Stanly County's 216,960 acres of land area, or 80.3 percent of the county.

Planning issues, however, do not stop at corporate boundaries. The Land Use Plan examines the planning and development goals of the municipalities of the county to ensure that long-range planning is coordinated and consistent.

History

Stanly County has a rich and colorful natural and cultural history. Stanly County lies at the southwestern end of the Uwharrie Mountains, which at 500-million years of age are considered to be the oldest mountain range in North America. Evidence suggests human settlement dating back 10,000 years ago when small tribes of hunter-gatherers roamed the Piedmont region. Though the North Carolina Colony was established by the British crown in 1663, the Stanly County region was generally uncolonized until the 1780s and 1790s, owing to its isolation provided by the Yadkin and Pee Dee Rivers. An area south of Norwood was the site of an American Revolutionary War confrontation, the Battle of Colson's Ordinary, in July 1780.

Stanly County was formed from the western portion of Montgomery County by the state legislature on January 11, 1841. The county is named for John Stanly, a colorful 19th-century theorist, orator, and statesman who served in the House of Commons, state legislature, and 7th and 11th U.S. Congresses. Albemarle, the county seat and largest city in Stanly County, was incorporated in 1857.

As part of the process used to develop the Land Use Plan, a timeline of events shaping the history of Stanly County has been developed during the course of the public meeting process. The timeline is included in Appendix A to this report.

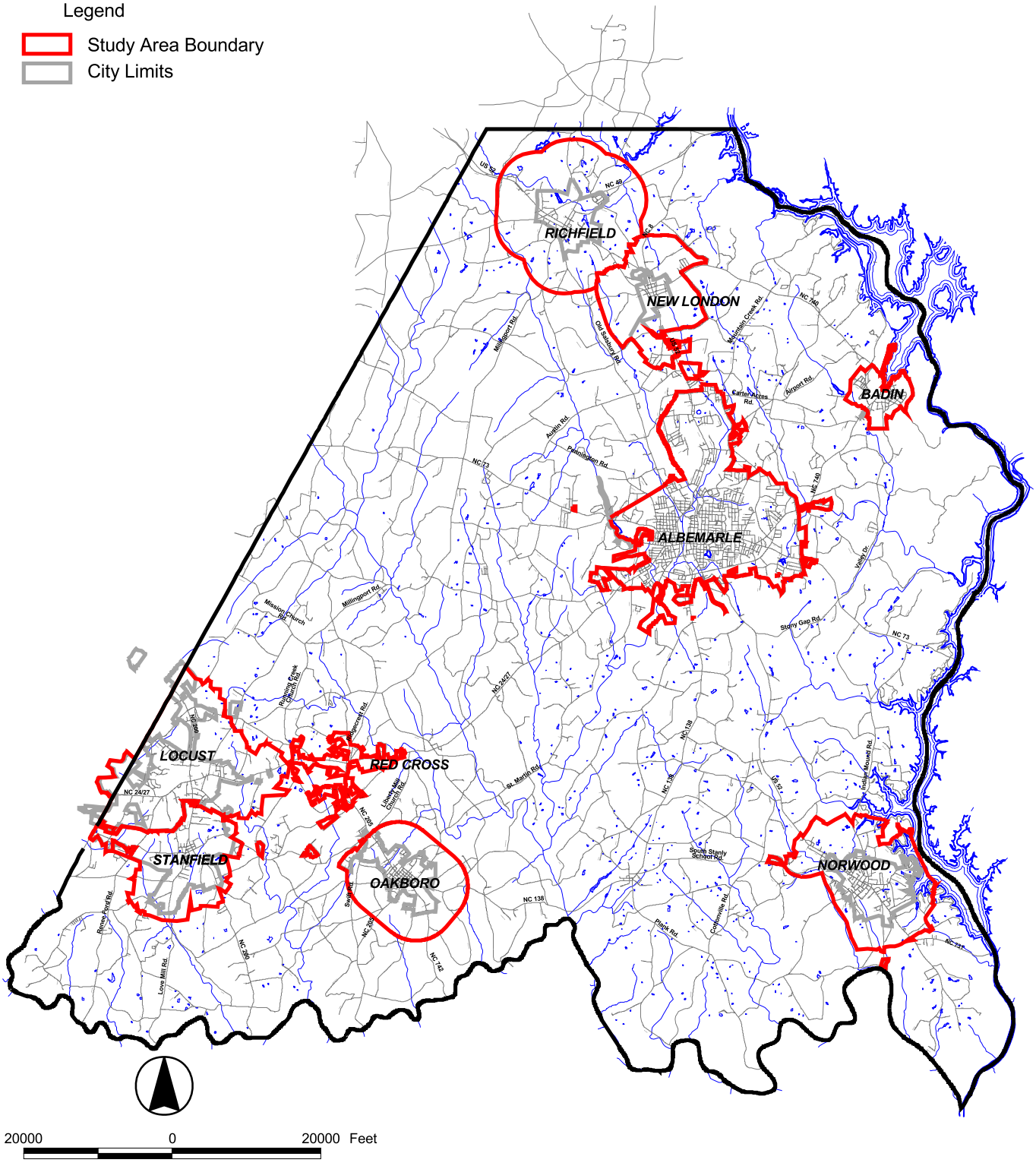


Figure 1-2

Study Area

Land Use Plan
Stanly County, North Carolina

The Planning Process

The process being used to develop the Stanly County Land Use Plan is "community driven." This means that the plan is intended to be a reflection of the values, goals, and vision of the people of Stanly County. The process used for the Land Use Plan is illustrated in Figure 1-3.

The first step in the planning process is to define the existing trends, opportunities, and constraints within the county. The information for this analysis was obtained from interviews with public officials, community leaders, and through an inventory of existing conditions in the county.

Overall, the planning process developed to complete the Stanly County Land Use Plan is designed to achieve the following goals:

- *To ensure representative public involvement of the citizens of Stanly County.* As discussed below, an extensive program of public involvement has been designed to involve the public

- *To establish a sustainable vision, the kind of place Stanly County wants to be.* Stanly County is an attractive and livable place to live, work, and play. The Land Use Plan is intended to identify a vision for the county that protects its resources—both natural and man-made—while managing long-range growth and development.

- *To coordinate with Stanly County's municipalities on long-range land use, growth, and development issues.* Planning issues rarely stop at jurisdictional borders. The Land Use Plan will consider the long-range needs of Stanly County's municipalities to ensure coordinated development in urban and rural areas.

- *To emphasize the relationship between land use and infrastructure decision-making.* Growth in any community is highly influenced by the availability of infrastructure ranging from water and sewer lines to roads and electrical power. The planning process will emphasize the nexus between infrastructure and land use planning.

- *Explore new, long-range growth patterns for the county.* Stanly County lies near the edge of the growing Charlotte metropolitan area. The Land Use Plan will explore new, long-range growth patterns to balance growth pressures and the needs of the county.

The second step in the process is the development of recommendations for addressing the problems, issues, and opportunities identified at the outset of the process. Sections 6 and 7 identify plan recommendations and implementation measures for the future of the county respectively.

The final step is the formal adoption of the plan by both the Planning Commission and Board of County Commissioners. The Stanly County Planning Commission approved the Land Use Plan for recommendation to the Board of Commissioners on May 13, 2002. The Board of Commissioners adopted the plan on June 24, 2002.

Public Participation

An extensive program has been developed to ensure public participation in the development of the Land Use Plan. This program includes the establishment of a 26-member Steering Committee, appointed by the Board of Commissioners, to guide the development of the Land Use Plan. The Steering Committee serves a multitude of roles in the planning process, including acting as a sounding board for ideas developed during the planning process. The Steering Committee met at strategic times during the planning process.

Figure 1-3
Planning Process

In addition to the Land Use Plan Steering Committee, two rounds of Public Input Forums were held to gain public information regarding the Land Use Plan at important points in the planning process. The first round of Public Input Forums were held in August 2001 and included five meetings held throughout the county. The purposes of the first round Public Input Forums was to present findings obtained during the existing conditions analysis phase of the planning process, and to obtain citizen input regarding issues and concerns regarding the future of the county.

The second round of Public Input Forums were held in March 2002 and were designed to provide citizens with an opportunity to comment on the preliminary draft recommendations of the Land Use Plan.

The Land Use Plan Steering Committee recommended the plan's adoption in April 2002. On May 13, 2002, a Public Hearing of the Stanly County Planning Commission was held to accept formal public comment regarding the plan's findings, recommendations, and implementation measures. The Land Use Plan was adopted by the Board of County Commissioners on June 24, 2002.

SECTION 2: GROWTH AND DEVELOPMENT TRENDS

Introduction

Section 2 provides a summary of growth and development trends within Stanly County. The section consists of an analysis of socio-economic and countywide development trends. These analyses were completed to understand growth rates for the county, and to identify trends for use through the remainder of the Land Use Plan development process.

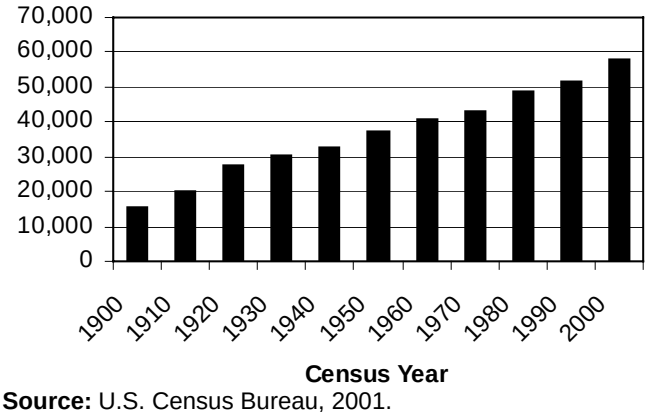
Socio-Economic Analysis

The first part of Section 2 analyzes socio-economic trends in Stanly County. The section includes analyses of general population, labor force, and educational attainment characteristics. The source for most of the information used to develop this part of Section 2 is the decennial census information provided by the U.S. Census Bureau, and projections developed by the State of North Carolina Office of State Budget and Management.

Population Characteristics

This portion of Section 2 examines population trends in Stanly County as well as projections into the near future. Although most of the analysis included in this portion of Section 2 is focused on population growth in the recent past, at the outset of this analysis an assessment of historical population statistics is warranted. As indicated in Table 2-1, Stanly County's population has grown at a very steady rate since 1900. In 1900, Stanly County had a population of 15,220; in 2000, the U.S. Census Bureau reported a population of 58,100, a 281.7 percent increase over the period, or a 2.8 percent annual average. Although the growth rate has moderated in percentage terms in recent decades—Stanly County has grown at an annual average of 1.1 percent since 1950, and 1.0 percent since 1980—the amount of the population increase has accelerated. From 1900 to 2000, the population of the county grew by 428.8 persons annually. Since 1980, annually the population of Stanly County grew by 764 persons.

Table 2-1. Population of Stanly County, North Carolina, 1900-2000.



Source: U.S. Census Bureau, 2001.

Over the past 10 years Stanly County has seen almost twice as much growth as in the previous 10-year period. As indicated in Tables 2-2 and 2-3, from 1980 to 1990 Stanly County's population increased from 48,517 to 51,765, a 6.7 percent increase. From 1990 to 2000 the population increased to 58,100, a 12.2 percent rise. In relation to adjacent counties as well as the state of North Carolina, Stanly County is still growing at a much slower rate. Largely because of the eastward expansion of the Charlotte metropolitan region, adjacent Cabarrus and Union Counties grew respectively at a rate of 32.5 and 46.9 percent. To the east, Anson and Montgomery Counties are growing at a pace more similar to that of Stanly County. For the state of North Caroline the population grew from 1980 to 1990 by 12.8 percent, and from 1990 to 2000 it increased by 21.4 percent.

Table 2-2. Population Trends, Selected North Carolina Counties and Stanly County Communities, 1980-2020.

Jurisdiction	1980[1] Census	1990[1] Census	2000[1] Census	2010[2] Projection	2020[2] Projected
Stanly County	48,517	51,765	58,100	64,372	70,547
Anson County	25,649	23,474	25,275	26,671	27,653
Cabarrus County	85,895	98,935	131,063	165,488	200,092
Davidson County	113,162	126,688	147,246	166,567	184,449
Mecklenburg County	402,270	511,211	695,454	892,801	1,089,258
Montgomery County	22,469	23,359	26,822	30,182	33,247
Rowan County	99,186	110,605	130,340	151,062	171,889
Union County	70,436	84,210	123,677	166,916	210,738
Albemarle	15,110	14,940	15,680	**Note:** The State of North Carolina does not project future populations for municipalities.	
Badin	1,514	1,360	1,154		
Locust	1,590	1,940	2,416		
New London	454	414	326		
Norwood	1,818	1,617	2,216		
Oakboro	587	600	1,198		
Richfield	373	535	515		
Stanfield	463	517	1,113		
State of North Carolina	5,880,095	6,632,448	8,049,313	8,668,421	7,756,517

[1]U.S. Census Bureau, 1980, 1990, and 2000.
[2]State of North Carolina Office of State Budget and Management.

Note: Town of Red Cross not included in U.S. Census information. Town incorporated in 2002.

Table 2-3. Percentage Growth, Selected North Carolina Counties and Stanly County Communities, 1980-2020.

Jurisdiction	Percent Change[1] 1980-1990	Percent Change[1] 1990-2000	Percent Change[2] 2000-2010	Percent Change[2] 2010-2020
Stanly County	6.7	12.2	10.8	9.6
Anson County	-8.5	7.7	5.5	3.7
Cabarrus County	15.2	32.5	26.3	20.9
Davidson County	12.0	16.2	13.1	10.7
Mecklenburg County	27.1	36.0	28.4	22.0
Montgomery County	4.0	14.8	12.5	10.2
Rowan County	11.5	17.8	15.9	13.8
Union County	19.6	46.9	35.0	26.2
Albemarle	-1.1	5.0	**Note:** The State of North Carolina does not project future populations for municipalities.	
Badin	-10.2	15.1		
Locust	22.0	24.5		
New London	-8.8	21.3		
Norwood	-11.1	37.0		
Oakboro	2.2	99.7		
Richfield	43.4	-3.7		
Stanfield	11.7	115.3		
State of North Carolina	12.8	21.4	18.0	14.7

[1]U.S. Census Bureau, 1980, 1990, and 2000.
[2]State of North Carolina Office of State Budget and Management.

Population trends for communities within Stanly County were also examined as indicated in Tables 2-2 and 2-3. From 1990 to 2000, Stanfield showed the greatest amount of growth with a 115 percent increase in population. Oakboro showed the second-largest increase with a growth rate of 99.7 percent. These growth trends point to the close proximity of the two communities to growth in Union and Cabarrus Counties. Significant growth has also taken place in Norwood with an increase of 37 percent in population from, 1990 to 2000. This is likely due in part to its proximity to Tillery Reservoir. Locust grew over the same period by 24.5 percent. It is anticipated that growth will continue in the towns and unincorporated areas on the southwestern edge of the county and along NC 24/27 corridor. An acceleration of this growth rate is expected when the eastern portion of Interstate 485 is completed in 2003 along with the planned widening of NC 24/27, NC 49, and U.S. 52 to four lanes.

Population Projections

Population projections for counties in North Carolina to the year 2020 have recently been released by the State of North Carolina Office of Budget and Management and are included in Tables 2-2 and 2-3. Generally these projections estimate that existing population growth trends in Stanly County and other central North Carolina counties. These projections predict that the population of Stanly County will continue to grow at a moderate pace over the next 20 years. The population is predicted to increase 10.8 percent between 2000 and 2010 to 64,372 people. The projections go on to predict that the population of the county will be 70,547 persons in 2020, a 9.6 percent increase between 2010 and 2020. At the end of the 20-year period, an additional 12,447 persons are expected to be living in the county.

Davidson, Montgomery, and Rowan Counties are expected to grow at rates similar to Stanly County over the 20-year period identified in Tables 2-2 and 2-3.

The pattern of significant population growth in the counties west of Stanly County—Cabarrus, Mecklenburg, and Union Counties—is expected to continue over the same analysis period. Cabarrus County is expected to grow 26.3 percent by 2010, and another 20.9 percent between 2010 and 2020, ultimately arriving at a population of 200,092 in 2020. Union County—while growing at a faster rate—will arrive at a 2020 population of 210,738. By 2020, Mecklenburg County's population is expected to reach 1,089,258. Between 2000 and 2010, Mecklenburg County is expected to grow 28.4 percent; between 2010 and 2020, it is predicted that the county will grow 22.0 percent.

Similar projections for communities within Stanly County are not available.

Table 2-4 compares population growth in unincorporated and incorporated areas of Stanly County. From 1990 to 2000, the unincorporated areas grew at almost the same rate as the incorporated area. This may, in part, be due to the annexation of unincorporated areas in the past decade. Overall, unincorporated areas comprise almost 58 percent of the county's overall population.

Table 2-4. Population Growth, Unincorporated and Incorporated Areas of Stanly County, 1990-2000.

Area	1990	2000	Percent Change
Stanly County Unincorporated Population	29,842	33,482	12.2
Incorporated Totals	21,923	24,618	12.3

Source: U.S. Census Bureau, 1990 and 2000.

Note: Unincorporated population totals include figures for Red Cross. Red Cross incorporated subsequent to the completion of the U.S. Census.

Population by Census Tract

Population by census tract was also compared in order to determine where growth has been occurring within the county (Table 2-5 and Figure 2-1). Tract 9908, located in the southwestern portion of the county, includes Stanfield and Locust and portions of the newly created Town of Red Cross and has the highest population and highest growth rate between 1990 and 2000. The population for tract 9908 in 2000 was 8,421 people. The tract's population grew 26.7 percent during the 1990 to 2000 time period. This is no doubt due to tract's close proximity to Union and Cabarrus Counties.

Tract 9902—which includes Badin and the northern portion of the Tillery Reservoir shoreline—was the second-fastest growing tract at 24.6 percent. Tract 9907—which includes the Millingport area—was the third-fastest growing tract at 22.9 percent. As with tract 9908, its growth can be attributed to its close proximity to Union and Cabarrus Counties.

Table 2-5. Population Growth by Census Tract, Stanly County, 1990-2000.

Census Tract	1990 Population	2000 Population	Percent Growth	Highest Population	Highest Growth
9901	7,142	7,745	8.44	2	6
9902	3,237	4,034	24.62	8	2
9903	3,648	3,902	6.96	9	7
9904	3,438	3,481	1.25	11	11
9905	3,352	3,577	6.71	10	8
9906	5,917	6,251	5.64	3	9
9907	3,431	4,218	22.94	7	3
9908	6,644	8,421	26.75	1	1
9909	4,579	5,150	12.47	6	5
9910	4,746	5,468	15.21	5	4
9911	5,631	5,853	3.94	4	10

Source: U.S. Census Bureau, 1990 and 2000.

Median Age and Age Distribution

Table 2-6 provides a comparison of median age statistics for Stanly County, the state of North Carolina, and the United States. The median age for the population of Stanly County has been aging over the past 20 years. For 1999 the median age was estimated to be 36.7 years of age. This is consistent with state and national trends of aging. Stanly County's median age has been consistently higher than the state and national figures. It is projected for the next 20 years that the county will continue to age and for the median age to become closer to that of the state as a whole.

Table 2-6. Median Age of the Population, Stanly County, State of North Carolina, and the United States, 1981-2020.

Year	Stanly County[1]	North Carolina[1]	United States[2]
1981	32.7	30.0	—
1990	34.8	33.0	32.8
2000	36.9	35.8	35.5
2010 Projected	38.6	38.3	—
2020 Projected	38.8	39.3	—

[1]State of North Carolina Office of State Budget and Management.
[2]U.S. Census Bureau, 1981, 1990, and 2000.

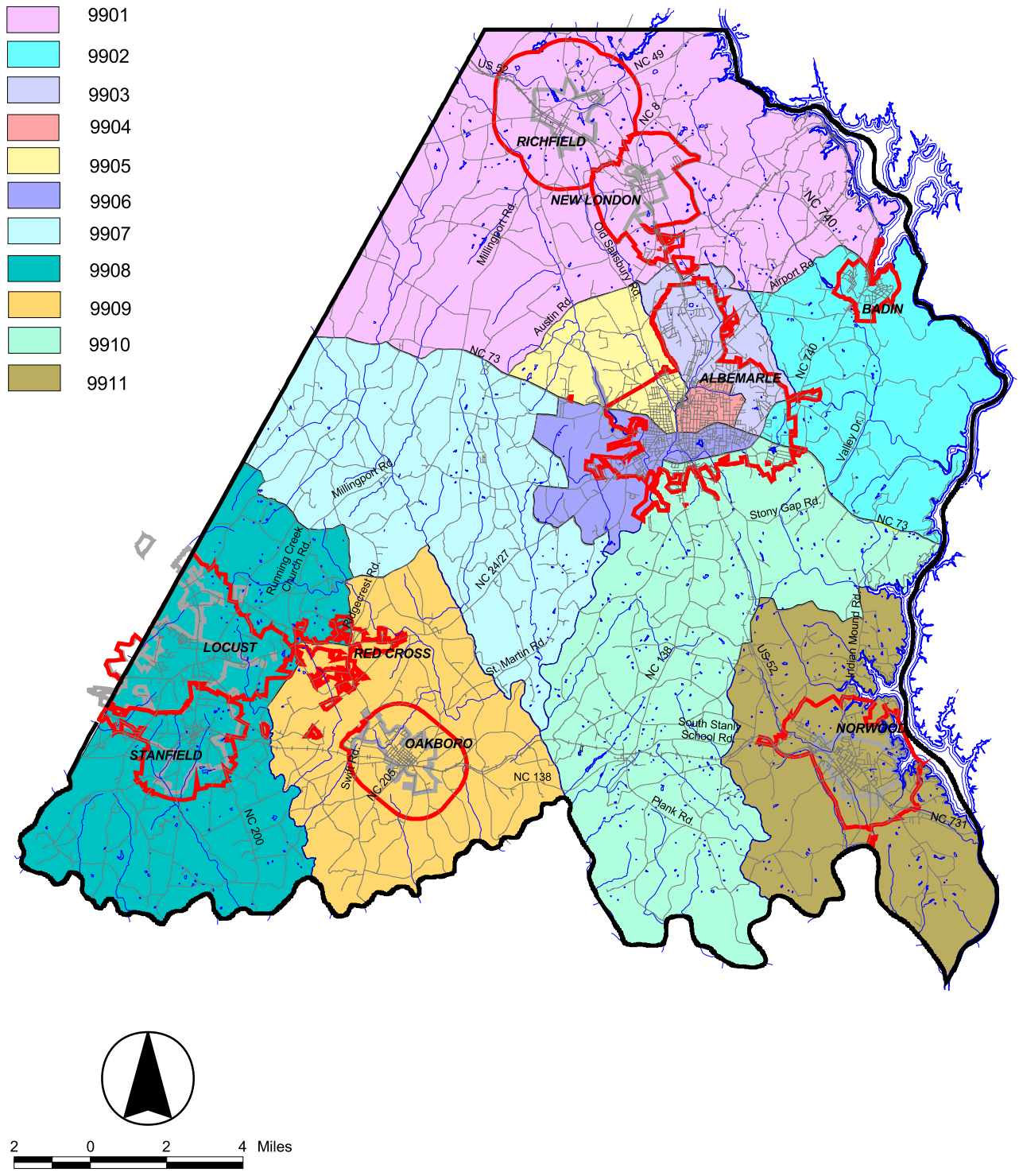


Figure 2-1

Census Tracts

Land UsePlan
Stanly County, North Carolina

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Table 2-7 provides a comparative breakdown of the age distribution of Stanly County from 1990 and 2000. The table illustrates the aging of Stanly County that took place from 1990 to 2000. In 1990, the largest age cohort was the 25 to 34 age group (15.3 percent of population); while in 2000, the 35 to 44 cohort (15.5 percent) was the largest. Significant growth occurred—in percentage terms—for the 45 to 54, 35 to 44, and 10 to 14 age cohorts. Decreases occurred in the 25 to 34, 20 to 24, 65 to 74, and 15 to 19 age cohorts.

Table 2-7. Age Distribution, Stanly County, 1990-2000.

Age	1990	1990 Percent	2000 Estimates	2000 Percent	Percentage Increase 1990-2000
0-4	3,746	7.2	3,624	7.2	—
5-9	3,452	6.7	4,175	7.2	0.5
10-14	3,395	6.6	4,334	7.5	0.9
15-19	3,807	7.4	3,870	6.7	-0.7
20-24	3,762	7.3	3,374	5.8	-1.5
25-34	7,901	15.3	7,851	13.5	-1.8
35-44	7,488	14.5	9,022	15.5	1.0
45-54	5,593	10.8	7,932	13.7	2.9
55-59	2,544	4.9	3,103	5.3	0.4
60-64	2,533	4.9	2,550	4.4	-0.5
65-74	4,505	8.7	4,433	7.6	-1.1
75-84	2,484	4.8	2,952	5.1	0.3
85+	555	1.1	880	1.5	0.4
Total	**51,765**		**58,100**		
Source: State of North Carolina Office of State Budget, Planning and Management, 2000.					

Population Density

Population density is an indication of the intensity of developed within a geographical area. In 1990 Stanly County had a population density of 131.0 persons per square mile (Table 2-8). The 2000 census indicated the population density increased by 12.3 percent to 147.1 persons per square mile, a growth rate similar to the national average of 12.7 percent. For the same period, the population density of the state of North Carolina grew 21.3 percent to a population density of 165.2 persons per square mile.

Table 2-8. Population Density (Persons Per Square Mile), Selected North Carolina Counties, State of North Carolina, and the United States, 1990-2000.

County	1990	2000	Percent Growth
Stanly	131.0	147.1	12.3
Anson	44.2	47.5	7.5
Cabarrus	271.5	359.7	32.5
Davidson	229.4	266.7	16.3
Mecklenburg	971.8	1,321.5	36.0
Montgomery	47.5	54.6	15.0
Rowan	216.3	254.9	17.9
Union	132.1	194.0	46.9
State of North Carolina	136.2	165.2	21.3
United States	70.3	79.2	12.7
Source: US Census Bureau, 1990 and 1980.			

When compared to other surrounding counties, the counties to the north and west all have higher population densities as well as greater percent increases. For the sake of comparison, Cabarrus County had in 2000 a population density of 359.7 persons per square mile. The county experienced a 32.5 percent increase in density between 1990 and 2000. Union County, which began the 1990s with a population density similar to Stanly County's 2000 population density, grew 46.9 percent to a population density of 194.0 persons per square mile.

Rowan County, located immediately to the north of Stanly County, had a 2000 population density of 254.9 persons per square mile and experienced a 17.9 percent increase in that density between 1990 and 2000. Davidson County grew at a similar rate over the same time period.

Anson and Montgomery are the only surrounding Counties that have lower population densities than Stanly County. Each has a population density about one-third that of Stanly County. Overall this population density analysis indicated that Stanly County lies at the crossroads of a rapidly-developed and expanding urban area to the west, and a more-rural area to the east. Looking ahead, Stanly can learn from the communities to its west of what can be in store for them as the Charlotte metropolitan area grows toward Stanly County.

Table 2-9 provides a summary of household statistics for Stanly County and the state of North Carolina. The total number of households in Stanly County increased 12.5 percent from 1990 to 2000. For this period, an additional 2,476 new households were established within the county. This growth rate, although somewhat reduced from the 13.6 percent growth rate for the county for the 1980 to 1990 timeframe, mirrors both the county's continued population growth and gradual reduction in household size discussed later in this report.

For the 1990-2000 time period, the number of households in the state of North Carolina grew 24.4 percent to a total of 3,132,013 households according to the U.S. Census Bureau.

Table 2-9. Households, Stanly County and State of North Carolina, 1980-2000.

Place	1980	1990	Percent Change 1980-1990	2000	Percent Change 1990-2000
Stanly County	17,378	19,747	13.6	22,223	12.5
North Carolina	2,043,291	2,517,026	23.2	3,132,013	24.4
Source: U.S. Census Bureau, 1980, 1990, and 2000.					

The mean persons per household in Stanly County decreased from 1990 to 2000 to 2.53 persons per household. As indicated in Table 2-10, this trend is in keeping with a state trend of household sizes getting smaller. Figures for the state of North Carolina decreased at a slightly faster rate—2.0 percent—compared to the county rate of 1.6 percent. As a result, Stanly County's 1990 persons per household rate is slightly higher than the state average.

Table 2-10. Mean Persons Per Household, Stanly County and State of North Carolina, 1980-2000.

Place	1980	1990	Percent Change 1980-1990	2000	Percent Change 1990-2000
Stanly County	2.73	2.57	-5.9	2.53	-1.6
North Carolina	2.78	2.54	-8.6	2.49	-2.0
Source: U.S. Census Bureau, 1980, 1990, and 2000.					

Median Income

Table 2-11 provides a comparison of median income for Stanly County and the state of North Carolina. Stanly County's median household income in 1980 ($14,510) was roughly similar to that of the state ($14,481). While the median income of the county rose from 1990 to 2000 by 74.9 percent to $25,374, that increase was below the state's growth rate for the same period. That trend continued through to the year 2000, with the 2000 median income for the county rising to $34,156 compared to $38,498 for the state of North Carolina.

Table 2-11. Median Income, Stanly County and State of North Carolina, 1980-2000.

Place	1980[1]	1990[1]	Percent Change 1980-1990	2000[2]	Percent Change 1990-2000
Stanly County	$14,510	$25,374	74.9	$34,156	34.6
North Carolina	$14,481	$26,647	84.0	$38,498	44.5

[1]U.S. Census Bureau, 1980 and 1990.
[2]CACI Marketing Source Book of County Demographics, 2000.

Labor Force Characteristics

This section of Section 2 examines characteristics of the labor force of Stanly County in terms of the unemployment, distribution of labor, and commuting time.

Unemployment

Table 2-12 indicates unemployment rates from 1992 to 2001 for both Stanly County and the state of North Carolina. While from 1997 to 2000 unemployment rates had experienced a gradual decrease in Stanly County, the non-adjusted 2001 unemployment rate was 8.3 percent, the highest annual rate since 1992. As for the state of North Carolina, the 5.5 percent unemployment rate represents the first rate increase in the 1992 to 2001 analysis period.

Table 2-12. Unemployment Rate (Not Seasonally Adjusted), Stanly County and State of North Carolina, 1992-2001.

Year	Stanly County	North Carolina
1992	6.2	6.0
1993	5.1	4.9
1994	6.2	4.4
1995	5.9	4.3
1996	6.3	4.3
1997	4.7	3.6
1998	3.4	3.5
1999	3.5	3.2
2000	4.2	3.6
2001	8.3	5.5

Source: Civilian Labor Force for North Carolina, 2002.

Employment Sectors

Comprising of over 27.1 percent the county's employment base, the largest employment sector of the Stanly County economy in 2000 remains the manufacture of non-durable goods (Table 2-13) a drop of 0.4 percentage points for the overall market since 1990. This reflects the size and importance of this sector of the economy despite the decline of the textile industry since the early 1990s. Behind the manufacturing/non-durable sector is the retail trade sector that accounted for 14.5 percent of the county's employment base, and the manufacture of durable goods that accounted for 13.0 percent of the county employment base.

The state of North Carolina's largest employment sector was the retail trades with 16.0 percent of the employed workforce in 2001. Behind the retail trades sector was the manufacture of non-durable goods sector at 14.4 percent of persons employed, and the manufacture of durable goods sector that accounted for 11.7 percent of statewide employment.

Commuting Time

Commuting time is an important indicator of the land use relationship between residential development areas patterns and places of employment such as commercial, industrial, public, and agricultural areas. In 1990, 74 percent of the Stanly County workforce was traveling less than 30 minutes to work (Table 2-14). This indicates that the great majority of Stanly County's labor force was working within the county. The average commute time for the Stanly County labor force was 20.8 minutes, roughly similar to the statewide average. Statistics from 2000 indicated a commuting time increase for Stanly County to 25.3 minutes, a 21.6 percent increase from 1990. A similar increase was registered for the state of North Carolina over the same time period.

Table 2-13. Employment by Industrial Sector (Population 16+ Years), Stanly County and State of North Carolina, 1990-2000.

Industry	State of North Carolina		Stanly County	
	1990	2000	1990	2000
Agriculture, Forestry, and Fisheries	2.8	2.8	2.0	2.1
Mining	0.2	0.2	0.2	0.2
Construction	7.0	7.2	8.7	8.9
Manufacturing-Non-durable Goods	14.9	14.4	27.5	27.1
Manufacturing-Durable Goods	11.8	11.7	12.9	13.0
Transportation	3.8	3.8	2.8	2.8
Communications and Other Public Utilities	2.6	2.7	1.6	1.6
Wholesales Trade	4.2	4.4	2.5	2.6
Retail Trade	16.1	16.0	14.6	14.5
Finance, Insurance, and Real Estate	5.1	5.3	3.4	3.6
Business and Repair Services	3.9	4.0	3.3	3.5
Personal Services	2.8	2.7	2.0	1.9
Entertainment and Recreation Services	1.0	1.0	0.9	0.8
Health Services	7.2	7.1	4.7	4.7
Educational Services	8.0	7.9	6.8	6.6
Other Professional and Related Services	5.1	5.2	2.9	2.8
Public Administration	3.6	3.6	3.3	3.2
Total	**100.0**	**100.0**	**100.0**	**100.0**

Sources: U.S. Census Bureau, 1990.
Claritas, 2002.

Table 2-14. Mean Commuting Time, Stanly County and State of North Carolina, 1990-2000.

Census Year	Stanly County	State of North Carolina
1990	20.8	19.8
2000	25.3	24.0
Percent Change, 1990 to 2000	**21.6 Percent**	**21.2 Percent**
Source: U.S. Census Bureau, 1990 to 2000.		

With the construction of the eastern section of Interstate 485 to within 13 miles of the western edge of Stanly County scheduled to be complete in 2003, commuting times are expected to increase for the county labor force. Easier access will allow for quicker commutes to Charlotte and its eastern suburbs in Cabarrus and Union Counties. This will result in an increase in the population of people who work in Charlotte and Union and Cabarrus Counties but who live in Stanly County. This development is of particular concern for western Stanly County, including the towns of Locust and Stanfield and the NC 24/27 corridor leading to Albemarle, a situation that appears to be borne-out already in 2000 Census figures for Stanly County.

Educational Attainment

The educational level of an area is an important factor for employers and new businesses when deciding where to locate. Based on 1990 and 2000 U.S. Census figures, Stanly County has a relatively high level of educational attainment. As indicated in Table 2-15, educational attainment remained relatively unchanged for the county from 1990 to 2000. Over 32.9 percent of the population over the age of 25 have obtained a high school diploma, a 0.5 percent increase over the 10 year period. The percentage of residents with a high school diploma or greater increased at a similar level to 62.5 percent of the over 25 population.

Table 2-15. Educational Attainment, Stanly County, 1990 and 2000.

Educational Attainment Level	1990	2000
Less than 9th Grade	15.0	14.8
9th-12th Grade, No diploma	22.9	22.8
High School Graduate	32.4	32.9
Some College, No Degree	14.1	14.0
Associate's Degree	6.3	6.4
Bachelor's Degree	7.0	6.9
Graduate or Professional Degree	2.4	2.3
Percent High School Graduate or Higher	62.2	62.5
Percent Bachelor's Degree or Higher	9.4	9.2
Source: U.S. Census Bureau, 1990 and 2000.		

County Development Trend Analysis

Zoning and building permit data were examined to identify trend of development within Stanly County. Data was used that was available from the county from as far back as 1990 for zoning permits activity, and from building permits data from 1997 to the present. It is important to note that building permit data discussed in this section of the report includes statistics covering all of Stanly County. Zoning permit data, however, excludes statistics for Locust, Oakboro, Richfield, and Stanfield.

Building Activity

Zoning Permits

Table 2-16 provides a summary of zoning permits issued by the county from 1990 to 2001. The statistics include permits granted within Albemarle, Badin, New London, Norwood, as well as all unincorporated areas of the county. A total of 10,866 zoning permits were issued over the 12-year period indicated in Table 2-16, an average of 905 permits granted annually. This figure includes not only new construction but additions to existing residential structures. The year with the most permits granted was 1999 with 1,050 permits granted followed closely by 1990 with 1,011 total permits. While zoning permit activity has fluctuated over the analysis period, the number of permits granted has never varied from this average by more than 12.5 percent over the analysis period.

Table 2-16. Zoning Permits Issued, Stanly County, 1990-2001.

Year	Residential Permits	Commercial/ Industrial Permits	Total Residential/ Commercial/ Industrial Permits	Total Permits (Includes Additions)
1990	—	—	—	1,011
1991	—	—	—	880
1992	—	—	—	898
1993	—	—	—	856
1994	—	—	—	794
1995	—	—	—	795
1996	—	—	—	834
1997	—	—	—	919
1998	492	31	523	945
1999	510	54	564	1,050
2000	481	24	505	979
2001	480	82	562	905
Total	**1,963**	**191**	**2,154**	**10,866**
Average	**490.8**	**47.8**	**538.5**	**905.0**

Source: Stanly County Permit Activity Reports, Stanly County Planning and Zoning Department, 1990-2001.

A more-detailed breakdown of zoning permit information is provided for the time period beginning in 1998. This breakdown—while not providing an adequate length of time to establish a clear trend—indicates an average of 490.8 residential zoning permits and 47.8 commercial and industrial permits granted annually. The figures for residential permits has been fairly consistent over the three-year period, ranging from a low 492 permits in 1998 to a high of 510 permits in 1999. Figures for commercial and industrial zoning permits is less consistent, ranging from a low of 24 in 2000 and a high of 82 in 2001.

Building Permits

Table 2-17 provides a summary of building permits issued from 1997 through 2001 for all of Stanly County including all incorporated areas. The statistics indicated in Table 2-17 do not provide an adequate amount of historical data to indicate a clear trend, but they do indicate some interesting findings. First, new home building permits issued in Stanly County have averaged 273 permits issued annually with high and low yearly figures within 10 percent of the average. Trends for the issuance of permits for manufactured homes—although more erratic than statistics on new home construction—are generally consistent from year to year. An average of 278 manufactured home permits have been issued since 1997 in Stanly County.

Table 2-17. Building Permits Issued, Stanly County, 1997-2001.

Year	New Houses	Manufactured Homes	Total Residential	New Commercial and Industrial	Total Permits	Estimated Average House Cost	Estimated Average Cost Commercial and Industrial
1997	251	294	545	110	655	$84,828	$67,905
1998	247	323	570	122	692	$93,156	$165,534
1999	277	338	615	153	768	$93,206	$30,227
2000	297	267	564	186	750	$103,540	$88,498
2001	293	168	461	179	927	$94,461	$187,071
Average	**273.0**	**278.0**	**551.0**	**150.0**	**758.4**	**$93,838.2**	**$107,847**

Note: Includes incorporated areas.

Source: Stanly County Building Department.

Together, the total number of residential permits issued in Stanly County since 1997 is 551 permits. The number of commercial and industrial permits rose each year from 1997 to 2000. In 1997, 110 commercial/industrial permits were granted in the county. This figure rose to 186 permits in 2000 and decreased slightly to 179 permits in 2001. The average number of commercial and industrial permits granted from 1997 to 2001 was 150.

The estimated value of the new residential construction in Stanly County from 1997 to 2001 was an average of $94,461. This figure does not include the estimated value of manufactured homes. As with the zoning permit statistics summarized in Table 2-16, the residential permit estimated value was fairly consistent from year to year, with a high of $103,540 in 2000 and a low of $84,828 in 1997. For commercial and industrial construction, the statistics are less consistent. The average estimated value of each commercial/industrial permit for the 1997-2001 period was $107,847; however, this includes figures as high as $187,071 in 2001 and figures as low as $30,227 in 1999. Again, as these statistics are collected for a more considerable period of time, a more-clear trend analysis will become possible to identify.

Conclusions

Analysis reviewed in Section 2 indicates that Stanly County is at a crossroads. Stanly County—though twice as large as its eastern and southern neighbors, Anson and Montgomery Counties, is growing at a roughly similar rate. Its neighbors to the west—Cabarrus and Union Counties—are both growing at a rapid pace due to their location relative to Charlotte. The influence of the Charlotte metropolitan region is increasingly being felt throughout the county and particularly in the western half in the vicinity of Locust, Oakboro, Red Cross, and Stanfield, and in the northern portion near New London and Richfield.

Stanly County grew to a population of 58,100 in 2000, a 12.2 percent increase since 1990. While this growth rate is low relative to adjacent counties, Stanly County in 2000 finds itself where Davidson, Cabarrus, and Rowan Counties were in 1990: experiencing double-digit growth rates. As planned infrastructure such as road improvements is constructed, Stanly County, and most certainly its western perimeter communities will increasingly be connected to the outside world to the west. Eventually it will need to be prepared for rapid growth in the near future.

Some parts of Stanly County are already experiencing this growth. Census tracts centered on western (Locust, Red Cross, and Stanfield), west-central (the Millingport area), and east Stanly County (Narrows and Tillery Reservoir) all grew at a rate over 20 percent since 1990. While this growth maybe small in terms of real numbers, they indicate that these areas are all approaching the growth rates of neighboring counties to the north and west as well as residential growth in eastern Stanly County near Tillery Reservoir.

Data on employment, commuting distances, and educational attainment indicates that Stanly County is beginning to more resemble its northern and western neighbors.

Zoning and building permit information for the county verifies this growth. The Stanly County Building Department has issued an average of 273 new home and 278 manufactured home permits since 1997. Figures for commercial and industrial building permits indicate a steady increase in construction activity since 1997.

SECTION 3: THE LAY OF THE LAND

Natural Resources Analysis

An analysis of environmental conditions within Stanly County will provide a framework for decision-making about future development patterns in the county. For a variety of environmental reasons, certain areas of the planning area are better suited for development than others. Factors such as soil conditions, lands subject to wetland conditions and flooding, groundwater supplies, and steep slopes must be considered during the planning process.

The process of determining the suitability of land for development involves analyzing the attributes of the natural environment and identifying restrictions placed on development by each attribute. The major natural systems that have been analyzed to determine land suitability and the county are soils, wetlands, geology, groundwater, surface water, and floodplains. A variety of sources were utilized in the environmental analysis including the Soil Survey of Stanly County, and information obtained from state and federal agency web sites.

Geology of the Region

Stanly County is located in the Piedmont Province of North Carolina, between the Blue Ridge Mountains and the Coastal Plain. The land can be defined as gently rolling. The Uwharrie Mountain Range, which is considered to be the oldest mountain range in North America, is partially located within the County. North Carolina is divided into nine geological belts, areas with similar rock types and geologic history. Stanly County is located within the 'Carolina Slate Belt' that consists of rock of sedimentary and volcanic origin formed during the Cambrian Period around 550 to 650 million years ago. When the rock underlying Stanly County today was formed, the land was comprised of oceanic volcanic islands.

That geologic history left Stanly County rich with mineral resources. Stanly County participated in the nation's first "gold rush" beginning in the late 1790s. North Carolina led the United States in gold production prior to the gold rush in California in 1849. Some gold mining has continued in the area to this day.

Today, mineral extraction in the Carolina Slate Belt generally consists of surface mining of crushed stone for streets, and pyrophyllite for refactories, ceramics, filler, paint, and insecticide carriers. Triassic Period basins containing sedimentary rocks that were formed from streams carrying mud, silt, sand, and gravel are also found in the county. These mudstones are mined in order to produce brick, sewer pipe, structural tile, and drainage pipe (North Carolina Geological Survey web site).

Soils

Soil characteristics play an important role in determining the ability of the land to effectively support various forms of land use from farming to the construction of a residential subdivision to more intensive activities such as commercial or industrial development.

There are six general soil units in Stanly County as shown on Figure 3-1. Each unit usually is comprised of one or two major series as well as minor series. Table 3-1 provides a summary of each of the six soil units present in Stanly County. These units can be used to determine soil suitability for large areas. Because of the large number of individual soil phases within a general series—and the widespread availability of soil surveys from various federal, state, and local agencies—they are not mapped. In order to determine individual property soil suitability the Soil Survey of Stanly County, North Carolina should be consulted (U.S. Department of Agriculture (USDA), 1997).

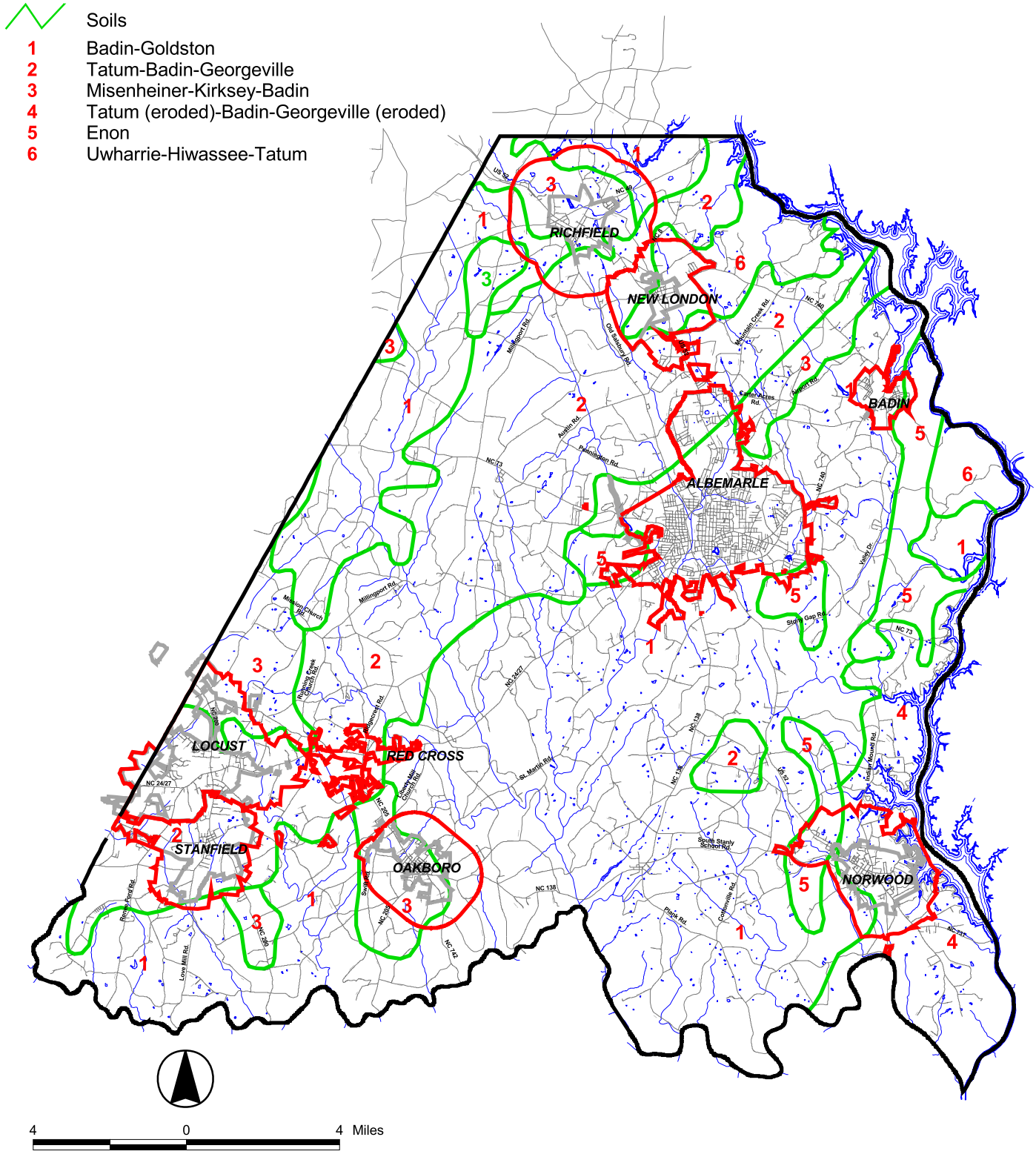


Figure 3-1

Soils

Land Use Plan
Stanly County, North Carolina

Table 3-1. General Soil Units of Stanly County.

Soil Unit	Percentage of Stanly County Land Area	General Description
Badin-Goldston	52.2	These soils range from undulating to steep and are well-drained. The surface is loamy with a clayey subsoil that is found on uplands. About half of the County consists of this type of soil. The northwestern portion of the County along with most of the eastern and southern portions of the County, except near the lakes and Morrow Mountain, are Badin-Goldston soil.
Tatum-Badin-Georgeville	25.8	Soils vary from gently sloping to rolling and are well drained. The top layer is loamy with a clayey subsoil and is found on uplands. The western central part of the County is made up of this kind of soil, stretching from the Stanfield/Locust area up past the Millingport area.
Misenheimer-Kirksey-Badin	9.1	Almost level to gently sloping soil that is somewhat poorly drained to well drained. It contains a loamy top layer with a loamy to clayey subsoil and is found in depressional areas, at the top of and along drainageways, and on knolls and ridges. This soil is in isolated areas in the western and more central areas of the County including Oakboro, Misenheimer, and Richfield.
Tatum (eroded)-Badin-Georgeville (eroded)	5.5	These soils are gently sloping to steep and are well drained. The soil is generally eroded and has a loamy top layer with a clayey subsoil and is found on uplands. The southeastern tip of the County along Tillery Reservoir consists of this type of soil, this includes the Town of Norwood.
Enon	3.8	Soils are undulating to hilly and well drained. Surface layer is stony or cobbly with a plastic clayey subsoil and is found on uplands. Scattered areas along the eastern side of the County contain this type of soil.
Uwharrie-Hiwassee-Tatum	3.6	Soils are gently sloping to very steep and are well drained. The top layer is stony or gravelly with a clayey subsoil found on uplands. The area around Morrow Mountain State Park as well as New London to the Yadkin River contain this type of soil.
Source: Soil Survey of Stanly County, North Carolina. United States Department of Agriculture, Natural Resources Conservation Service, in cooperation with North Carolina Department of Natural Resources and Community Development, North Carolina Agricultural Research Service, North Carolina Agricultural Extension Service, and Stanly Board of Commissioners, 1989.		

Prime Farmland Areas

Stanly County is an agricultural community. Agriculture—both in terms of cropland and pasturage—is the single-largest land use within the county. As of 1997 there were 558 farms within the county (U.S. Department of Agriculture (USDA), 1997). In 1999 there were 55,000 acres of harvested cropland with an estimated $61,000,000 in farm cash receipts (North Carolina Department of Agriculture, 2000). Poultry and beef cattle are the main livestock produced in the county, and cotton and soybeans are the major crops, with forages and corn

production closely following those numbers. Of the cash receipts generated in the county, 80 percent are from livestock sales and 20 percent from crop sales.

Preserving prime farmland areas as an important resource is essential for the community as well as for future generations. According to the USDA, "It is of major importance in meeting the Nation's short and long-range needs for food and fiber. The acreage of high-quality farmland is limited, and the USDA recognizes that government at local, state, and federal levels, as well as individuals, must encourage and facilitate the wise use of our nation's prime farmland."

According to the American Farmland Trust's 1997 report Farming on the Edge, the Southern Piedmont Major Land Resource Area (MLRA)—a zone that includes Stanly County and extends from Northern Virginia to east-central Alabama—was identified as the 21st most-threatened MRLA from among 127 MRLAs in the United States. This ranking was based on the relative high-quality of the MRLA in terms of soil characteristics and other factors, and relatively high development pressures in the region. Farming on the Edge recommends a series of general recommendations for highly-threatened, high-quality resource areas such as the Southern Piedmont (American Farmland Trust, 1997).

Prime farmland is defined by the USDA as 'soils that are best suited to producing food, feed, forage, fiber, and oilseed crops. Prime farmland soils produce the highest yields with minimal inputs of energy and economic resources.' A good amount of moisture from precipitation or irrigation is usually received and the soil acidity or alkalinity level is acceptable. There are few or no rocks in the soil and water and air can easily seep through. Erosion is low and flooding during growing season is minimal. Slopes range usually from 0 to 6 percent.

Based on these criteria, Stanly County has 49,843 acres of prime farmland, approximately 20 percent of the county's land area. Although these prime farmland areas are scattered around the county, the largest concentrations are found in the Tatum-Badin-Georgeville and Misenheimer-Kirksey-Badin soil units as shown on the general soil map (see Figure 3-2). Table 3-2 indicates the individual soil phases that are considered to be prime farmland soils in Stanly County.

Table 3-2. Prime Farmland Soil Phases of Stanly County.

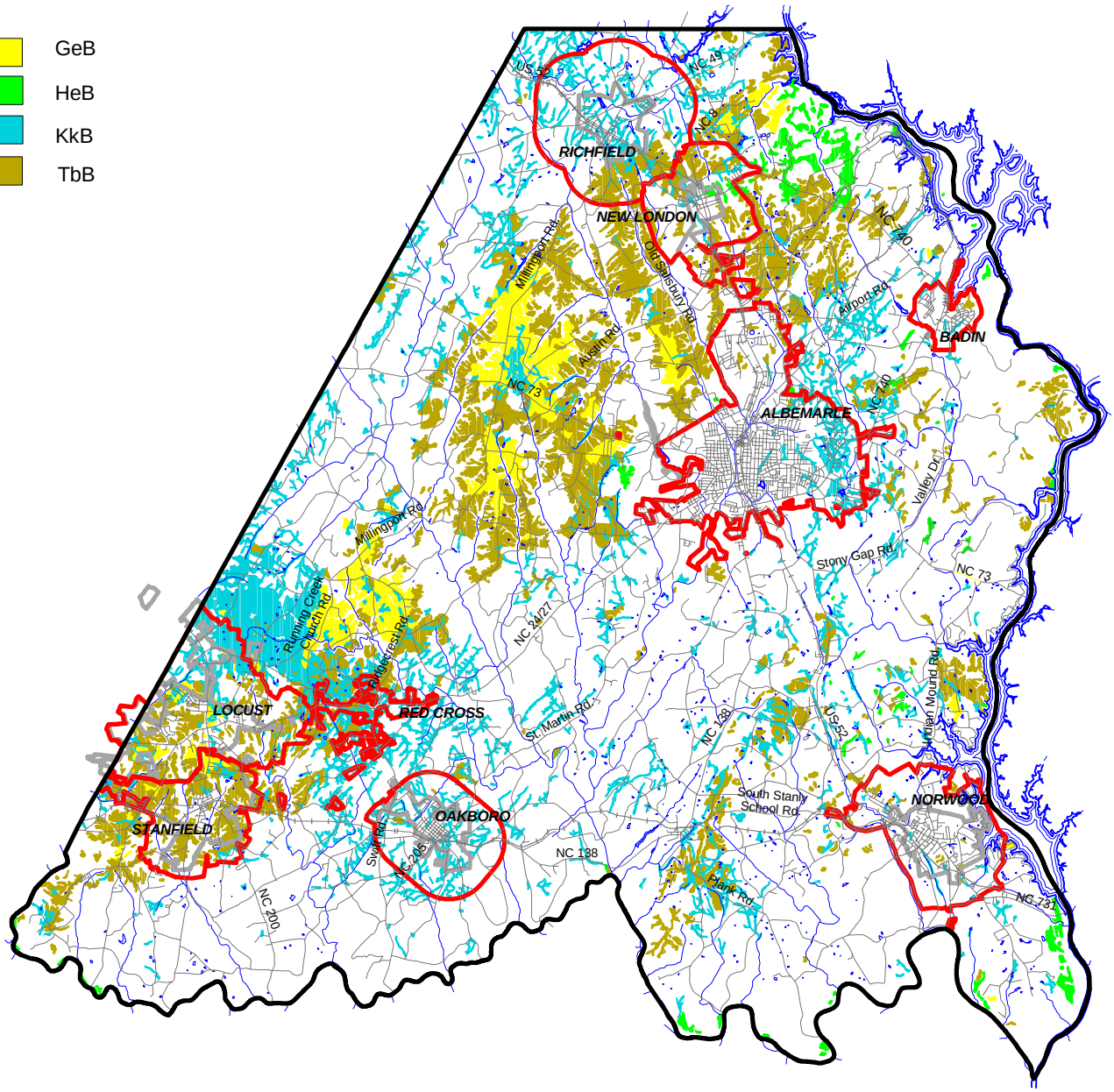
Soil Symbol	Soil Phase	Acreage	Percentage of Stanly County Land Area
GeB	Georgeville Silt Loam, 2 to 8 Percent Slopes	6,862	2.7
HeB	Hiwassee Gravelly Loam, 2 to 8 Percent Slopes	1,781	0.7
KkB	Kirksey Silt Loam, 0 to 6 Percent Slopes	15,352	6.1
TbB	Tatum Channery Silt Loam, 2 to 8 Percent Slopes	28,828	10.2
Source: Soil Survey of Stanly County, North Carolina, 1997.			

Currently Stanly County has no farmland preservation methods in place. Neighboring Rowan County to the north has a voluntary farmland preservation program in place with agricultural districts. Landowners sign non-binding agreements to 'sustain, encourage, and promote agriculture' and in return receive greater protections from nuisance suits filed by nearby landowners as well as other harmful impacts (The Land Trust for Central North Carolina, 1997).

Stanly County has been involved in encouraging and educating residents on farmland preservation. The North Carolina Cooperative Extension Service of Stanly County held a Farm Land Protection Seminar in May of 2001 to educate farmers and others about the different programs, policies, and laws of the State and Local Governments for farm protection. According to the Land Trust for Central North Carolina, sites totaling over 1,000 acres have been protected as open space or farmland in the last three years within Stanly County. Additional sites totaling 200 acres will be signed soon for preservation. The State of North Carolina has limited funding that individuals can apply for to preserve farmland. One of the criteria for receiving money is if

Soil Classifications

GeB
HeB
KkB
TbB



2 0 2 4 Miles

Figure 3-2

Prime Farmland Soils

Land Use Plan
Stanly County, North Carolina

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the area requesting the money is considered to be “best soil” or prime farmland. No in depth study has been done so far of Stanly County in order to determine this. The Soil Survey of Stanly County has designated certain soil phases to have the potential for prime farmland soils, but a more specific study needs to be done in order to determine exactly where these areas are. Currently, a Regional Farmland Preservation Study is in the beginning stages.

Surface Waters and Drainage Systems, Flood Hazard Areas, and Wetlands

Surface Water and Drainage Areas

Stanly County lies within the watersheds of the Yadkin-Pee Dee River and Rocky River. Approximately two-thirds of Stanly County drains into the Rocky River and one-third drains directly into the Yadkin-Pee Dee River. The Yadkin River begins in north-central North Carolina in the foothills of the Blue Ridge Mountains and drains much of central North Carolina and eastern South Carolina. Near Morrow Mountain State Park, the Uhwarrie River joins the Yadkin River to form the Pee Dee River, a river that ultimately drains into the Atlantic Ocean south of Myrtle Beach.

The Yadkin-Pee Dee River has been dammed in four locations on the eastern border of Stanly County. This system of dams is part of a chain of man-made lakes extending from Blewitt Falls near Rockingham upstream to High Rock Reservoir in Davidson/Rowan Counties. Beginning in the north, the Tuckertown Dam, located northeast of New London, was created to form Tuckertown Reservoir that extends to the northeastern corner of the county. The Narrows or Badin Dam, located east of Badin, was created to form the 5,350-acre Narrows Reservoir. Immediately downstream from the Narrows Dam is the Falls Dam that creates the Falls Reservoir in the vicinity of Morrow Mountain State Park. Each of these systems is managed by Yadkin-APGI, a wholly owned subsidiary of Alcoa, Inc., formally the Aluminum Corporation of America (Yadkin-APGI web site), as part of the Yadkin Project. The Yadkin Project is a hydroelectrical project licensed by the Federal Energy Regulator Commission (FERC).

Tillery Reservoir, a 5,000-acre hydroelectrical reservoir managed by the Carolina Power and Light Company forms behind the Norwood Dam located east of Norwood.

Much of the eastern portion of Stanly County drains eastward directly into the Yadkin and Pee Dee Rivers or via such tributaries as Mountain Creek. Both the Yadkin and Pee Dee Rivers form the eastern boundaries of Stanly County (see Figure 3-3). The western and central part of the county drain from the northwest to the south via tributaries including Big Bear Creek, Island Creek, and Town Creek that then flow southward into the Rocky River. South of Norwood, the Rocky River joins the Pee Dee River. The Rocky River forms most of the southern boundary of the county.

Wetland Areas

Figure 3-3 illustrates wetland areas within Stanly County. Generally these wetland areas are limited to isolated small-scale wetland areas located in valley bottoms, and long major rivers and tributaries of Stanly County.

Flood Hazard Areas

Floodplains serve a multi-purpose role as storage of rain waters, as recharge areas for groundwater, and wildlife habitat. Areas of Stanly County within the 100-year floodplain are identified in Figure 3-3. These flood hazard are designated by the Flood Insurance Rate Maps (FIRM) for Stanly County and are produced by the Federal Emergency Management Agency (FEMA). Areas within the 100-year floodplain are typically subject to a one in 100 chance of flooding within a given year.

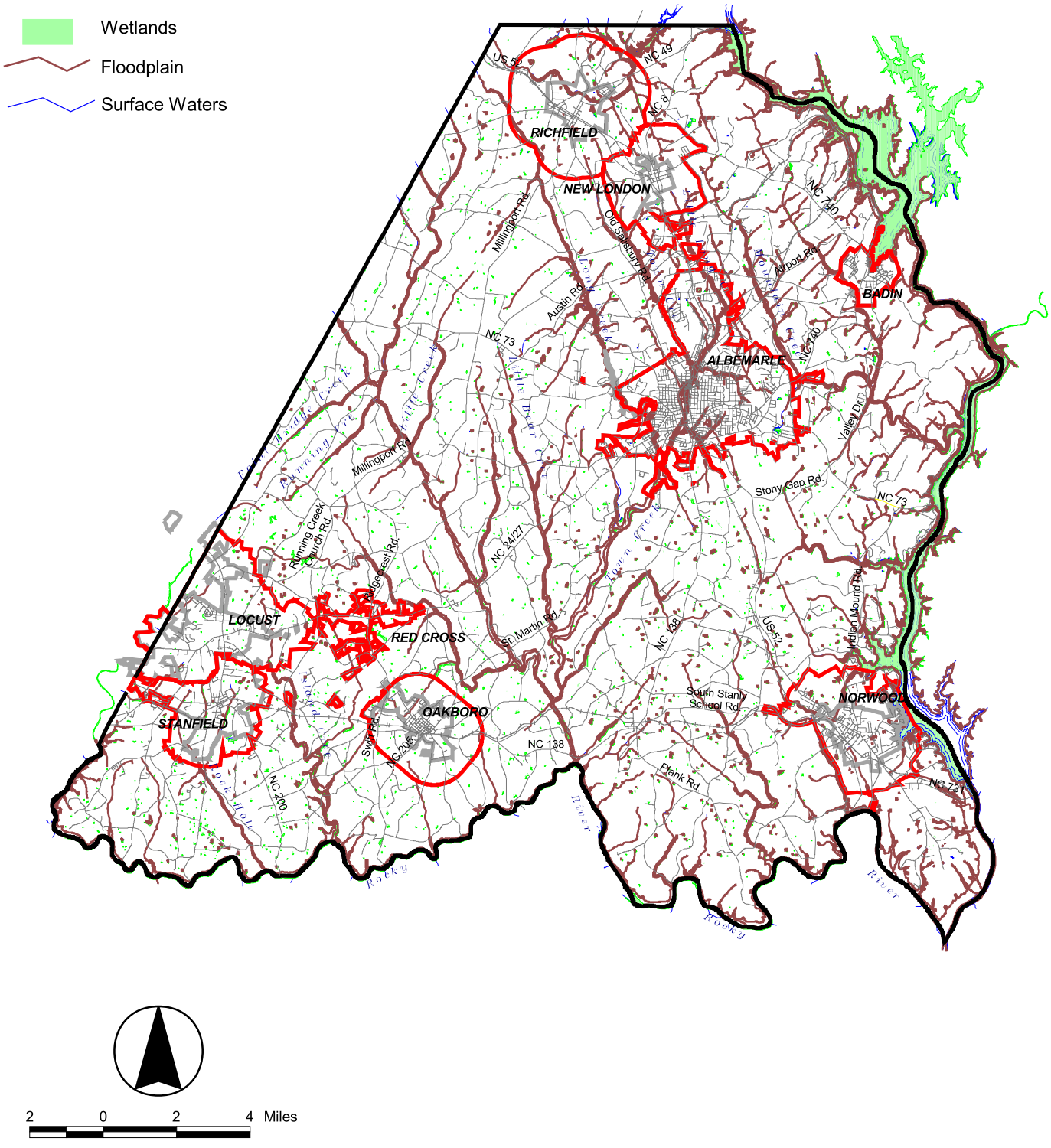

Figure 3-3

Wetlands, Floodplains, Surface Water, Drainage

Land Use Plan
Stanly County, North Carolina

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Flood-prone areas typically follow the major creeks, rivers, and reservoirs of Stanly County. In western Stanly County the larger creeks that have flood hazard areas include Rock Hole Creek, Island Creek, Pole Bridge Creek, Running Creek, Little Creek, and Big Bear Creek. In the central part of the county the flood hazard areas include Long Creek, Town Creek, Little Long Creek, and Mountain Creek. In the eastern area the flood hazard areas are adjacent to Narrows Reservoir, the Yadkin River, the Pee Dee River, and Tillery Reservoir. The Rocky River along the southern portion of the County also has flood hazard areas along it as well.

Stanly County has created a Flood Damage Prevention Ordinance in order to limit potential damage and injury from flooding. Within the ordinance limitations are set on building in flood areas along with requiring a Development Permit in all special flood hazard areas (Stanly County, 2000).

When new development occurs in the county there is the increased potential for flooding. Development increases the amount of impervious surface in the form of roadways, sidewalks, parking areas, thus increasing the volume and rate of surface water runoff. As the county develops, measures will need to be considered to mitigate the potential for flooding.

Watershed Management Areas

Stanly County has two watershed protection areas within its boundaries. These areas are protected by the Stanly County Watershed Protection Ordinance and contain both Critical and Protected Areas. Certain land uses are prohibited within the Critical areas because of their potential for contamination of drinking water in the Yadkin-Pee Dee basin. Critical areas in the northeast follow the Yadkin and Pee Dee Rivers and extend 500 feet from the center of the river. The Protected areas extend further out from the Critical areas. From the Pee Dee River in the east the Protected area extends to the eastern part of Albemarle. And in the north the Protected area covers the Town of Richfield and the northern part of New London.

Steep Slopes

The topography of Stanly County consists of gently rolling hills giving way to the Uwharrie Mountains in the eastern third of the county. Areas with steep slopes are more difficult to farm and develop for more-intensive activities such as residential development, and the construction of commercial and industrial areas. Soil types also can affect what land uses can be accommodated in an area. A slope analysis using U.S. Geological Survey (USGS) topographic information indicates that most of Stanly County has slopes with grades less than ten percent. Small areas with steep slopes greater than ten percent are scattered around the county, but are mostly concentrated in the vicinity of Morrow Mountain State Park and along the Yadkin and Pee Dee Rivers as illustrated in Figure 3-4.

Scenic Byways

The North Carolina Department of Transportation (NCDOT) has designated 44 Scenic Byways throughout the state to provide motorists with an opportunity to experience North Carolina's history, geography, and culture while raising awareness for the protection and preservation of these corridors (NCDOT web site). Sixteen Scenic Byways have been identified in the Piedmont area including four routes within Stanly County. Figure 3-5 illustrates the location of each of the byways within Stanly County.

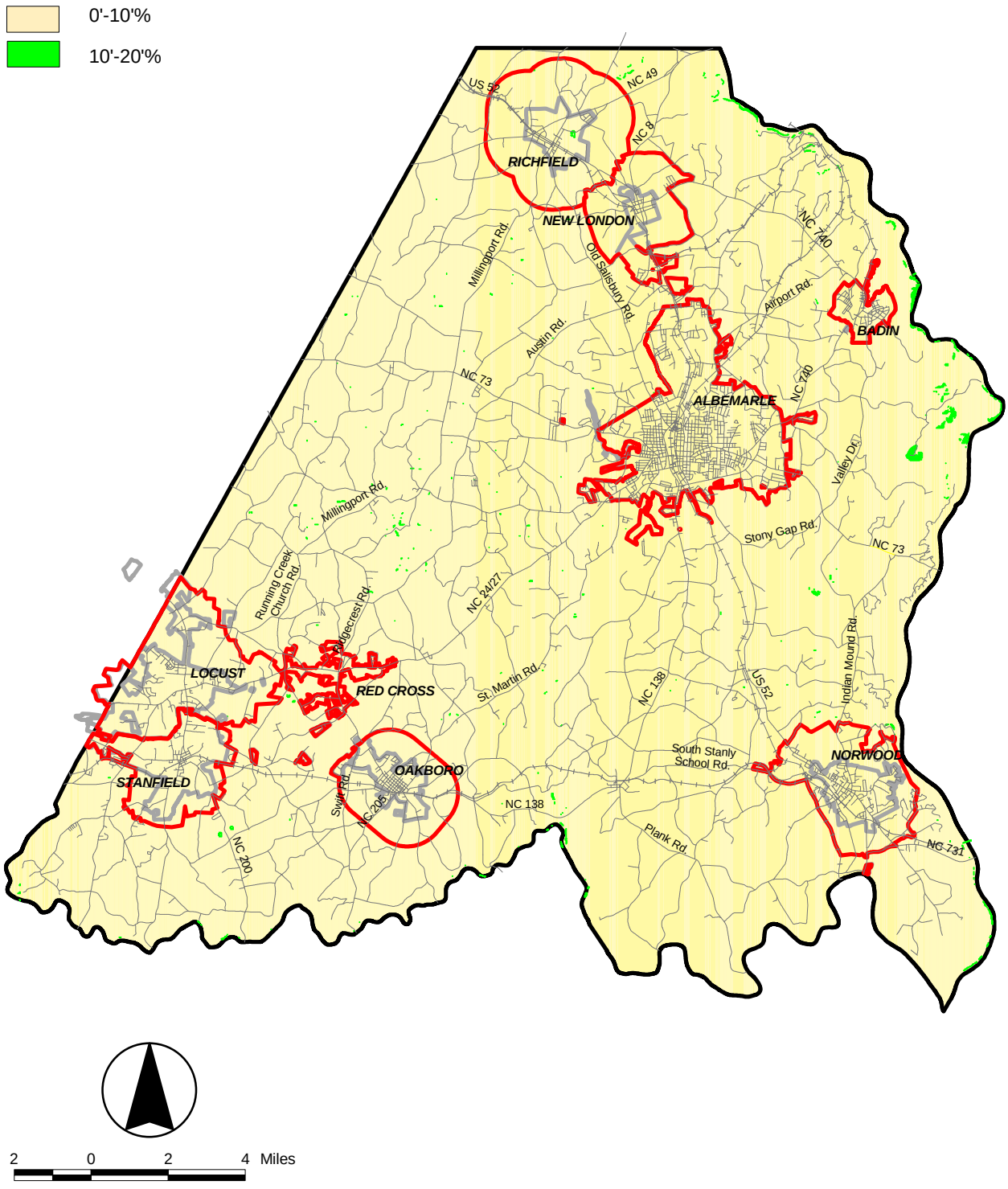

Figure 3-4

Slope Analysis

Land Use Plan
Stanly County, North Carolina

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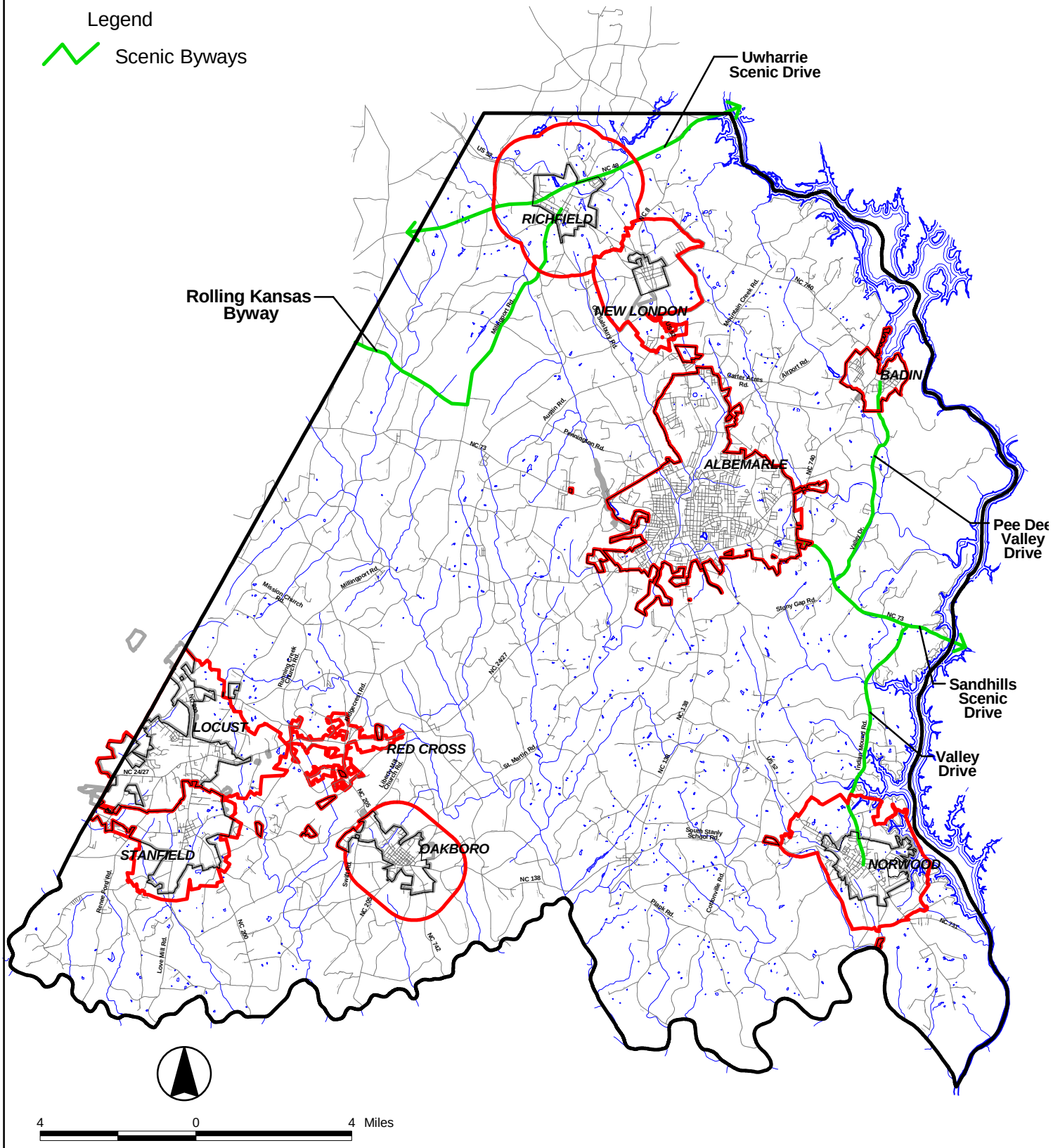


Figure 3-5

Scenic Byways

Land Use Plan
Stanly County, North Carolina

Pee Dee Valley Drive

This 14-mile route passes through a valley between Albermarle and the Pee Dee River in eastern Stanly County. The drive starts at the town of Badin and runs south along Valley Drive to the intersection of 24/27/73. A side tour is available along Morrow Mountain Road to Morrow Mountain State Park where wonderful views of Narrows Reservoir to the north and Tillery Reservoir towards the south is available from the upper parking lot. Narrows Reservoir was created in 1917 for hydroelectric power by the Carolina Aluminum Company. In 1935 Morrow Mountain State Park was formed from land given by James McKnight Morrow and today has hiking and equestrian trails, camping and cabins, along with the historical house of Dr. Francis Joseph Kron. Three mountain peaks that include Sugarloaf Mountain, Mill Mountain, and Tater Top Mountain are part of the Uwharrie Mountain Range.

The byway follows NC 24/27/73 east until it turns south at Indian Mound Road and passes Tillery Reservoir into the town of Norwood where the tour ends. Norwood, named for its first postmaster, was established in 1826 and is just west of Tillery Reservoir. Another side visit is Town Creek Indian Mound that can be found from NC 731 from Norwood past Mount Gilead to Indian Mound Road.

Rolling Kansas Byway

This nine-mile byway goes through an area called “Rolling Kansas” because of its hilly topography, farms, and windmills. It starts at Bear Creek Church Road at the Cabarrus/Stanly County line. Soon after is Bethel Bear Creek United Church of Christ and its graveyard. There are tombstones that are from the 1820s making the cemetery among the oldest in the county. The tour continues east across a one-lane bridge entering Rolling Kansas. The byway continues north along Millingport Road where you can see unobstructed views of gently sloping countryside. The tour ends at the Town of Richfield at U.S. 52.

Sandhills Scenic Drive

This Scenic Byway starts in Moore County to the east of Stanly County and travels west along NC 24/27 through Montgomery County and finally ends in Stanly County just before the City of Albemarle at Home Church Road. As you cross the Pee Dee River and into Stanly County the byway points out Tillery Reservoir on your left and that Stony Mountain is in the background of the Pee Dee’s west shore.

Uwharrie Scenic Road

Starting in Asheboro in Randolph County, this byway travels along NC 49 through Davidson County into Rowan County then Stanly County and ending in Cabarrus County.

Land Suitability / Summary of Natural Resources

Stanly County is rich in natural resources throughout that at once provide numerous opportunities as well as constraints to the use of land. The resources that influence development within the County include soils characteristics, wetlands, floodplains, drainage, and watersheds.

Soils within the County play a major factor in where development should take place and where soils for prime farmland should be preserved. Almost 20 percent of Stanly County’s soils are considered prime farmland. Unfortunately soils that are usually prime for farmland are also excellent for development as well. These two competing interests need to be measured and compared in order for both to happen in the future.

Floodplains along major creeks, rivers, and lakes also may influence development activity to site-specific areas in the county. Development is discouraged in these areas in order to keep flood damage to a minimal and to allow for unobstructed continuous flow along these waterways.

Watershed areas need to be protected from land uses that would contaminate the Yadkin and Pee Dee Rivers. It is essential to keep the county's drinking water safe for generations to come.

Existing Land Use

Introduction

An inventory of existing land uses within Stanly County is shown in Figure 3-6. The area included in this inventory is limited to those portions of Stanly County which lie within the area subject to the Land Use Plan—unincorporated areas outside municipal jurisdictions and ETJs. The purpose of conducting an existing land use analysis is to determine development patterns, identify existing and potential land use conflicts, and help identify opportunities and constraints to future development. The land use inventory in this report was created using digital orthophotography completed for the Stanly County Geographic Information System (GIS) Office in March 2000, field surveys in May and June of 2001, and consultation with county planning staff.

Eight generalized land use areas were identified within the existing land use survey: agricultural, wooded areas, commercial, industrial, parks and recreational areas, residential, public/semi-public, and surface water are identified. Each area is described below.

Agricultural Uses

The importance of agriculture to the county goes beyond land use analysis in that farming plays a critical role in defining the physical and functional character of Stanly County. Despite recent growth trends in some areas of the county, and the increasing impact of the Charlotte metropolitan area on Stanly County, large segments of the county still rely on farming for employment. The agricultural areas indicated on Figure 3-6 include farmland as well as related agricultural activities such as farmhouses and other farm structures. As indicated in Table 3-3, agricultural uses comprise 36.4 percent of study area, 63,542 acres overall.

Further, the rural character of Stanly County is a drawing card for future development. Albemarle and Stanly County's other communities still largely retain their places as the center of an important agricultural region, and each is viewed as a desirable small town. Increasingly, new scattered residential development is occurring throughout the county for residents seeking to experience the rural way of life.

Agriculture and related uses represent the largest single land use in all of Stanly County after wooded areas. While agricultural activity is indicated on Figure 3-6 throughout the county, its largest concentration is focused in western Stanly County near Millingport. Other large agricultural concentrations can be found in south central Stanly County near Aquadale and St. Martin.

Wooded Areas

Stanly County contains a large amount of wooded acreage that generally represent second- and third-growth forest areas. This land use category includes 89,048 acres or 50.8 percent of the study area. Figure 3-6 identifies stands of trees greater than five acres in area within the study area. Large concentrations of forest land can be found throughout the county. Generally, tree coverage is denser in the part of Stanly County east of U.S. 52 and NC 138. West of this corridor, forest coverage is less dense. It is important to note that while tree coverage appears to be the largest land use activity, much of the wooded areas shown on Figure 3-6 may be used for animal pasturage.

Commercial Uses

Commercial land uses include retail sales establishments, personal services businesses, health care offices, eating and drinking establishments, banks, professional offices, and agri-businesses. As would be expected, most commercial activity in Stanly County is located in the county's municipalities, however a small number of commercial land uses can be found near municipal corporate boundaries and along major thoroughfares. The largest concentration of commercial uses within the study area are found along the U.S. 52 corridor north of Albemarle. Smaller concentrations can be found in Aquadale in southern Stanly County.

While the proximity of Stanly County to the Charlotte metropolitan region may limit the demand for large-scale commercial development associated with large urban and suburban areas, growth in Albemarle, Locust/Stanfield, and New London/Richfield will likely require the provision of an adequate amount of land to meet the demands of a growing population in the near term. Commercial development in other areas of Stanly County will also be required to meet needs in those areas as well.

Industrial Uses

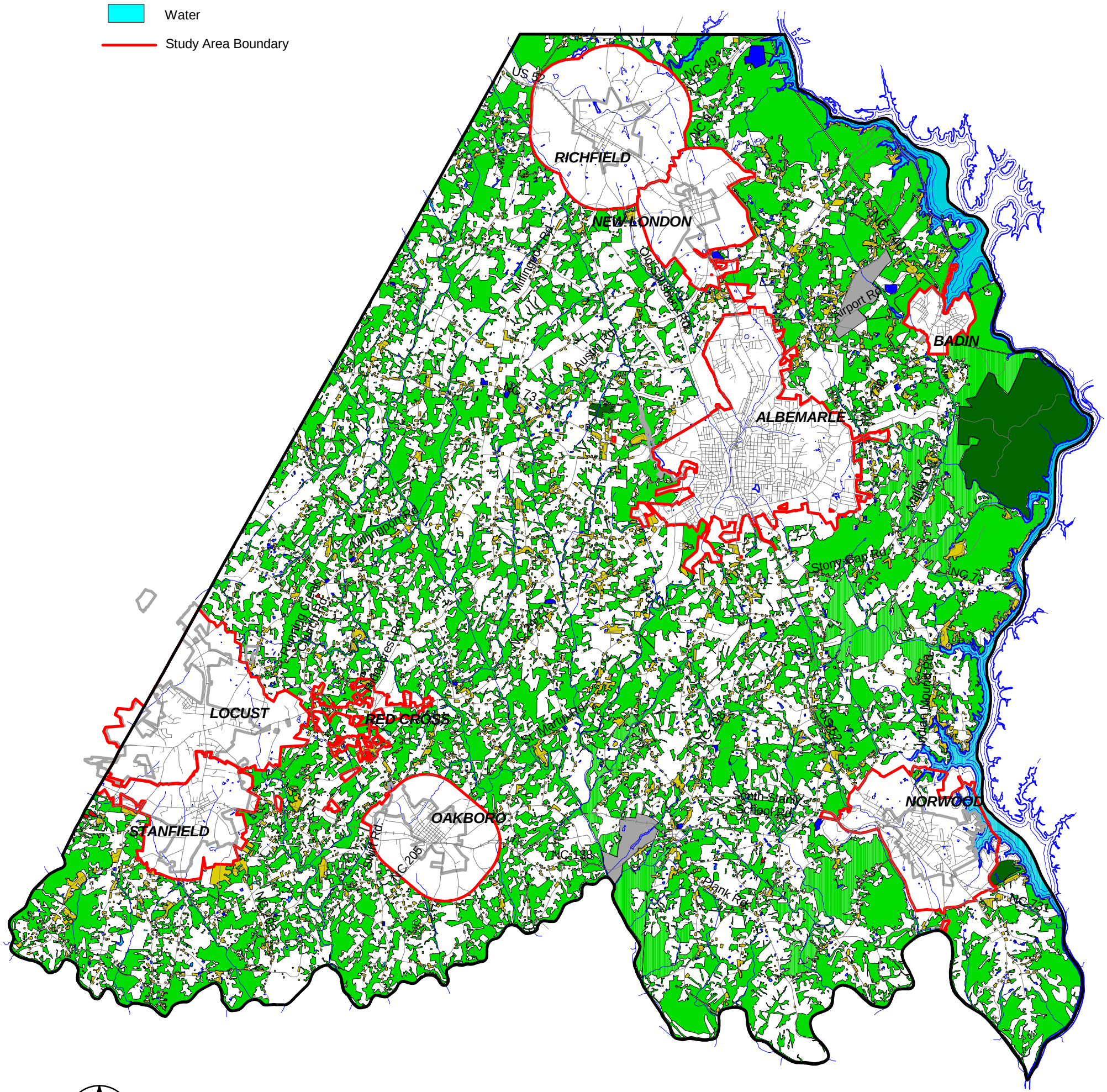
Industrial uses include manufacturing, warehousing, and distribution facilities. Industrial land uses are not prevalent in the study area of the county since industrial activity tends to locate close to population centers within incorporated areas of the county. The availability of utilities and transportation infrastructure—streets, highways, and rail lines—also play an important role in determining the location of industrial operations.

The two largest industrial activities in the study area are Albemarle-Stanly County Airport and the solite plant in the south-central part of the county. Small pockets of industrial activity can be found immediately west of Norwood and in Aquadale and along NC 740 in northeastern Stanly County near the airport. All told, 1,284 acres of industrial land uses are located within the study area.

The limited number of industrial areas in the study area can be expected to continue as long as public services essential to industrial activity are not provided in these areas. Despite this, Stanly County does offer some assets that could encourage increased industrial development. Those factors include a large volume of undeveloped land adjacent or near areas presently served by essential public services, good highway connectivity to the central North Carolina region, the presence of a first-class airport, and excellent rail access. One issue identified throughout the planning process thus far has been the lack of highway access in the county. With the planned widening of NC 24/27, NC 49, and U.S. 52 in the near future, among other projects, this drawback will be mitigated.

Land Use Classifications

- Commercial
- Parks, Recreation & Open Space
- Public / Semi-Public
- Residential
- Woodlands
- Industrial
- Agricultural
- Water
- Study Area Boundary



1 0 1 2 Miles

Figure 3-6

Existing Land Use

Land Use Plan
Stanly County, North Carolina

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Parks and Recreational Uses

This land use category is composed of publicly and privately owned parks and recreation areas including ballfields, playgrounds, and golf courses as well as undeveloped natural open space areas. This land use category is dominated by Morrow Mountain State Park, a 4,693-acre preserve located in east central Stanly County. The remaining parks and recreation areas in the county are comprised of privately-owned golf courses and other facilities. As indicated in Table 3-3, 2.6 percent of the study area is comprised of park and recreation areas.

Public and Semi-Public Uses

The public and semi-public land use category includes schools, churches, government-owned institutions, and fraternal clubs and organizations. Within the area subject to this land use inventory, small pockets of public/semi-public uses can be found throughout the county, typically along major thoroughfares and in established unincorporated population centes such as Aquadale and Millingport.

All told, about 0.2 percent of the county is classified as public/semi-public.

Residential Uses

Residential uses that include all types of housing—from single-family detached homes to apartments—are located within this land use category. For those portions of Stanly County within the study area, larger concentrations of residential development can be found in the following locations:

- Adjacent to the Albemarle ETJ, particularly north and east of the county seat and extending to Badin;
- Along the shores of Narrows Reservoir and Tillery Reservoir in eastern Stanly County. Increasingly this area is becoming a year-round community, building on its base of cabins and vacation homes;
- In south central Stanly County in Aquadale, St. Martin, and adjacent to the Oakboro ETJ; and
- South of the Stanfield/Locust ETJs.

Other pockets of residential development is generally limited to homes fronting major and minor thoroughfares such as NC 138 and Aquadale Road south of Albemarle, and northeast of Albemarle along NC 740. For the purposes of this land use survey, only areas where a concentration of five or more homes were identified were classified as residential. This distinguishes true residential development from agricultural-related farmhouses. Typically this type of residential development is occurring at a much lower density than that which is taking place in western Stanly County within the Locust/Stanfield ETJs. Generally the existing land use inventory suggests that this type of residential development is more firmly established in the eastern third of the county and in close proximity of Narrows Reservoir and Tillery Reservoir than in more agricultural areas of the county. All told, 5.1 percent of the study area is used for residential purposes or 9.012 acres.

Surface Waters

A significant part of the character of Stanly County is defined by manmade lakes (Tuckertown Reservoir, Narrows Reservoir, Falls Reservoir, and Tillery Reservoir) which together outline much of the eastern boundary of the county. The reservoirs also occupy a large amount of land area. Together the lakes cover 10,350 acres of land in Stanly County and adjoining Montgomery County including 6,638 acres within Stanly County. This represents 3.8 percent of Stanly County's land area.

Existing Land Use Distribution

Table 3-3 provides a summary of the distribution of the land use categories identified in Figure 3-6. The analysis of the land use distribution is limited to the study area identified in Figures 1-2 and 3-6 and excludes 42,600 acres of land either within incorporated areas of the county or those areas within ETJs.

Table 3-3. Existing Land Use Summary.

Land Use Category[1]	Acres	Percent of Study Area
Agriculture	63,542	36.4
Wooded Areas	89,048	50.8
Commercial	32	Less than 0.1
Industrial	1,285	0.7
Parks and Recreation	4,597	2.6
Public/Semi-Public Areas	384	0.2
Residential	8,834	5.1
Surface Waters	6,638	3.8
Total	**174,360**	**99.7**

[1]Corresponds to land use categories identified in Figure 3-6.
[2]Excludes 41,583 acres within municipal boundaries and ETJs outside Land Use Plan study area.

Source: Stanly County GIS Aerial Photography (completed in April 2000) and Woolpert, 2001.

Existing Land Use Summary

Despite the growth pressures presented to Stanly County, the county retains much of the rural character that has defined its appeal for so many for so long. Stanly County presents an interesting cross-section of development trends: in the west, Locust and Stanfield are experiencing the first effects of a tide of development rippling from the Charlotte metropolitan area just to their west. In eastern Stanly County, the shorelines of Narrows Reservoir and Tillery Reservoir are increasingly becoming year-round communities amongst the cabins and vacation homes of the recent past. Albemarle remains the population center of the county and its foremost commercial and cultural center. Other areas of the county, although growing, still retain the rural atmosphere of central North Carolina.

Because of the county's location relative to Charlotte, good roads and public services, and large amount of agricultural and other open spaces, there will be continued pressure in certain areas of the county. Other factors—such as the widening of NC 24/27 to four lanes and the completion of the eastern leg of Interstate 485—will place additional development pressure on certain parts of the county. This will have some predictable impacts on the way land is used in the future. There will be continued pressure to develop farm areas of in western Stanly County and the shorelines of Narrows Reservoir and Tillery Reservoir in the near term, and the remainder of the county in the long-term. This will have potentially the unavoidable impact of removing land permanently from agricultural production and the inventories of wooded area and open space.

SECTION 4: INFRASTRUCTURE SYSTEMS SERVING THE COUNTY

Introduction

Section 4 of the Phase I report provides a summary of infrastructure serving the county. Infrastructure examined in this section—including transportation systems, utilities, and community facilities—all take part in helping defining the future of the county since they so play such an important role influence development patterns.

Transportation Analysis

Introduction

A balanced transportation network should provide a safe and efficient means of travel for both people and goods. In addition, transportation systems, particularly roadways, contribute significantly to the patterns of development in any community, be it a city or town, county, or a region. This section of the Stanly County Land Use Plan examines existing transportation systems in Stanly County. Roadways, bikeways, rail lines, and public transportation will be studied in this analysis.

Roadways

Stanly County's roadway system is typical of many other counties in central North Carolina. Most major thoroughfares—NC 24/27, NC 73, NC 138, NC 740, and U.S. 52—link the county seat, Albemarle, with outlying rural areas and the central North Carolina region in a radial roadway pattern. This radial pattern is repeated to a lesser extent in other population centers of the county such as Locust/Stanfield, Oakboro, Richfield, and New London.

The remainder of the county road system essentially feeds the major road network by following the natural topography of the county.

Functional Classification System

According to the American Association of State Highway Transportation Officials (AASHTO), each roadway is specifically designed and used to serve a particular role—or functional classification—within the overall roadway network for a community, county, or region. The North Carolina Department of Transportation (NCDOT) uses the functional classifications identified in Table 4-1.

In general terms, each roadway classification is based on two design factors:

1. Mobility, or the capacity of a roadway segment to move traffic efficiently; and
2. Accessibility, or the ability of a roadway to provide access to land adjacent to the thoroughfare.

Each factor is inversely proportional to the other, that is, the capacity of an interstate highway to accommodate mobility limits its ability to accommodate accessibility to individual properties—homes, schools, businesses, industrial operations—along a roadway (AASHTO). By looking at the local classification system an understanding can be gained of the current roadway network, development patterns, and future opportunities for roadway expansion and development. The functional classifications system for Stanly County is illustrated in Figure 4-1.

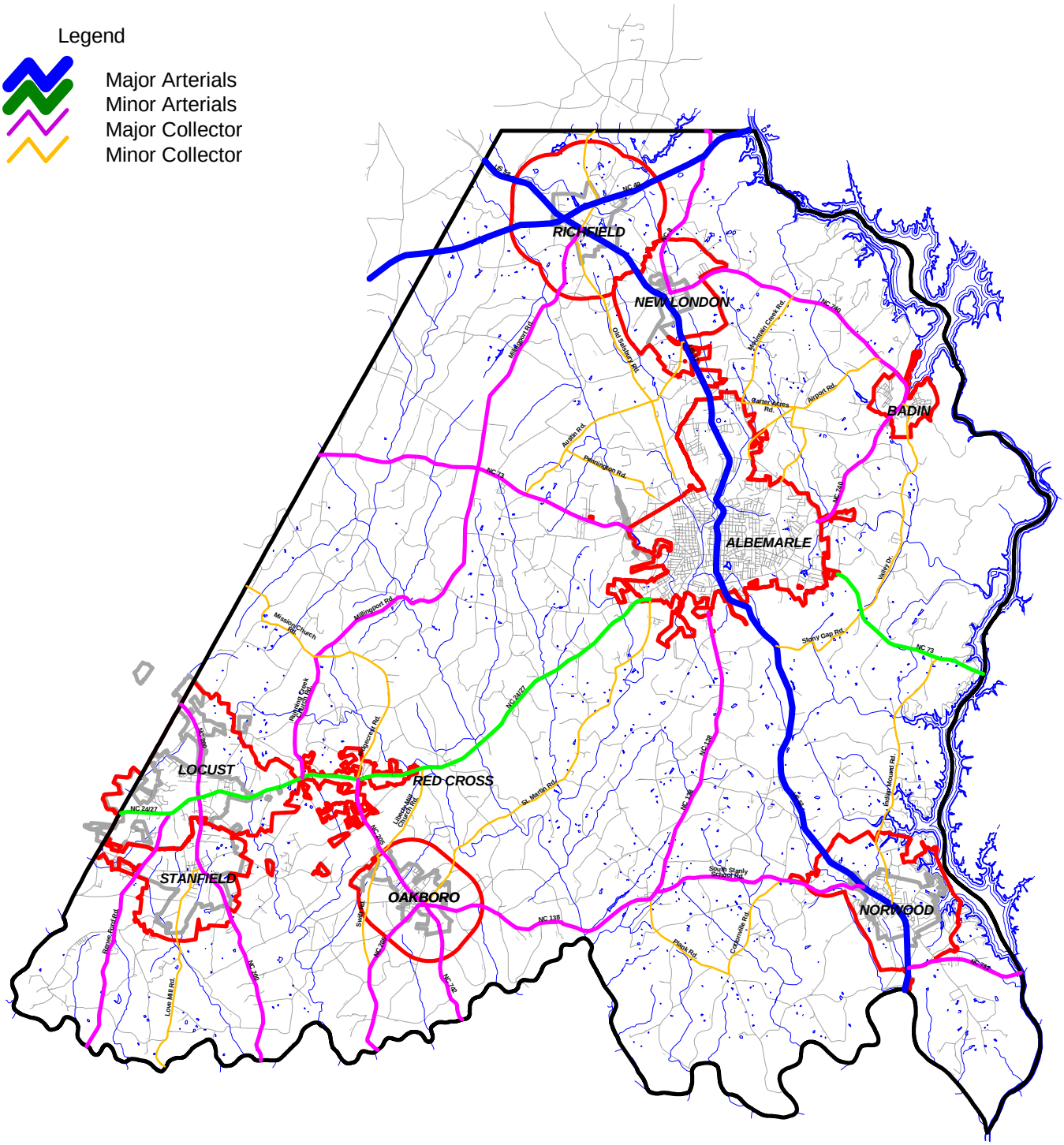

Figure 4-1

Functional Classification System

Land Use Plan

Stanly County, North Carolina

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Table 4-1. Roadway Functional Classifications.

Roadway Classification	Description
Freeway (Interstate)	A divided highway that has full access control with intersections that are separated by grade. The primary uses are for interstate and intrastate travel.
Major Arterial and Other Principal Arterials	The primary function is to carry local and regional traffic, connect communities, and to allow travel between major destinations. This classification of road is used for long distance travel and signals are used in areas of development. In many instances it is necessary to control access (curb cuts) for safety and to allow for continued flow.
Minor Arterial	The role of a minor arterial is similar to that of a major one except that travel distances are shorter and the amount of traffic volume is smaller.
Major Collector	Provide access to and travel between arterials. They provide travel to specific destinations and allow traffic flow between neighborhoods as well as countywide mobility.
Minor Collector	Minor collectors take traffic from local streets for short distances, then distributed the traffic to major collectors and arterials.
Local Streets	Local streets allow access to individual lots.
Source: NCDOT.	

Freeways

There are no roadways classified as freeways in Stanly County. Presently, construction is underway on the extension of eastern leg of Interstate 485—the Charlotte by-pass—in Mecklenburg County. Presently Interstate 485 ends at the Lawyers Road interchange. At its nearest point, Interstate 485 will pass within approximately 13 miles of the southwestern corner of Stanly County at the proposed Albemarle Road (NC 24/27) interchange in Mecklenburg County. Interchanges are planned at NC 218 and NC 24/27 in Mint Hill.

Major Arterials (Other Principal Arterial)

Major arterial roads in Stanly County include:

- *U.S. 52,* a major north-south roadway linking Richfield, New London, Albemarle, and Norwood. U.S. 52 continues northward to Salisbury and southward to Wadesboro.
- *NC 49,* a major east-west corridor for the central North Carolina region. From Richfield, NC travels northward to Asheboro and southward to the north side of Charlotte/Mecklenburg County. NC 49 is the only major roadway in the county that does not feed directly into Albemarle, the county seat.

For the purposes of this planning study, it is expected that once NC 24/27 is widened to four lanes west of Albermarle, the roadway will be considered a major arterial. This roadway improvement is discussed later in this report.

Minor Arterials

Minor arterial roadways in Stanly County include:

- *NC Highway 24/27* west of Albemarle to Locust/Stanfield.
- *NC Highway 24/27/73* east of Albemarle to the county line.

Major Collectors

Major collectors are as follows:

- *NC 73* west of Albemarle.
- *Renee Ford Road* in the southwest corner of the County.
- *NC 200* in the southwest corner of the County running in north-south fashion through Stanfield and Locust.
- *Running Creek Church Road* from NC 24/27 in southwestern part of the county and turning into Millingport Road up to U.S. 52 at Richfield.
- *NC 205* in its entirety from the county line through Oakboro and ending at NC 24/27.
- *NC 742* in its entirety from Oakboro south to the county line.
- *NC 138* in its entirety from Oakboro to Aquadale and eventually to Albemarle.
- *Stanly School Road* from Aquadale going east to until U.S. 52 at Norwood.
- *NC 731* in its entirety.
- *NC 740* in its entirety east from Albemarle to Badin and northwest to New London.
- *NC 8* in its entirety from New London north to the county line.

Minor Collectors

Minor collectors include the following:

- *Love Mill Road* in the southwest part of the county from the County line and continuing north to Stanfield.
- *Barrier Store Road* at the western County line going east and becoming *Five Point Road* and then turning east again to *Mission Church Road* and ending at Millingport Road.
- *Ridgecrest Road* starting from the intersection of NC 205 and NC 24/27 and continuing north until Millingport Road.
- *Swift Road* in the southwest part of the County beginning at NC 205 and continuing north and becoming *Liberty Mill Church Road* until NC 24/27.
- *St. Martin Road* starting from Oakboro and continuing northeast to Albemarle at NC 24/27
- *Plank Road* from Aquadale to Cottonville.
- *Cottonville Road* from Cottonville north to Stanly School Road.
- *Indian Mound Road* in the southeast from Norwood and continuing north to NC 24/27/73.
- *Stony Gap Road* from U.S. 52 south of Albemarle to NC 24/27/73 becoming *Valley Drive* and continuing north to Badin.
- *Ridge Street* running from the northeastern part of Albemarle and continuing north until it turns to *Mt. View Church Road* and continuing west then north to Palestine.
- *Kemp Road* from the northeast edge of Albemarle and continuing northeast into *Palestine Road* to Palestine.
- *Airport Road* from the northeast edge of Albemarle continuing east through Palestine then turning north until NC 740.
- *Mountain Creek Road* from northern Albemarle north to NC 740.
- *Old Salisbury Road* from the northwest part of Albemarle northwest to Richfield.
- *Pennington Road* from the northwest edge of Albemarle west to Austin Road.
- *Austin Road* northeast from NC 73 to U.S. 52.
- *Main Street* in Richfield north becoming *High Rock Road* to the county line.

Local Streets

Local streets are located throughout the county in less populated areas and within subdivisions. They allow for easy access of individual lots as well as travel to other local, collector, and arterial roads.

Planned Future Road Projects

Interviews were conducted with the Stanly County Planning staff as well as NCDOT in order to determine future road projects for the county. The NCDOT Construction – Active Project List and Future Project Letting List were used as well to help determine future dates and road segments. All project dates are subject to change and should only be used as a guide.

Figure 4-2 illustrates programmed NCDOT projects in Stanly County. Each project identified on Figure 4-2 is detailed below:

- NC 24/27 is in the process of being widened to four lanes and in some locations within Albemarle to five lanes. Currently on NC 24/27 from East of St. Martin Road to Bird Road in Albemarle is being widened. In 2005 the last part west of Albemarle should be let (construction started) for widening. This means that around 2007 NC 24/27 should be four lanes all the way from Albemarle to Charlotte as well as to Interstate 485.

- Interstate 485, the outer loop around the City of Charlotte, eastern section is scheduled to be complete in 2003. The interstate will be about 13 miles from Stanly County's border and around 35 miles from Albemarle. Residential development has already started to increase in the western census tract 9908 that includes Locust and Stanfield. This is predicted to continue as the completion date gets closer and once the road is finished allowing easy access to the City of Charlotte.

- The eastern part of NC 24/27, east of Albemarle to the County line will also be widened to four lanes with a schedule to be let in 2007 with completion date unsure, possibly in 2009.

- Ridge Street will be extended to Airport Road in order to provide for greater access to the Airport. The scheduled to start is 2006 and completion could possibly be two years later.

- In 2004 the U.S. 52 Extension from the existing U.S. 52 to NC 24/27 will be let. And widening of U.S. 52 from U.S. 74 in Wadesboro to U.S. 52 southeast of Albemarle to four lanes is on the schedule to be let in 2007.

- Widening of NC 49 to four lanes from east of SR 2444 to the Yadkin River is to be let in 2009.

- U.S. 52 widening from Richfield to Salisbury is on the TIP. The first section within Stanly County is tentatively planned to start in late 2010, but is currently not funded. As part of this section a bypass around Pfeiffer University and Richfield is also planned.

In addition to these projects, Stanly County has requested that NC 73 should be widened to four lanes west of Albermarle. This identified need—shown in Figure 4-2—has not been included as yet in the NCDOT project list.

Access Management Plans

Access management is a tool by which transportation planners and designers protect transportation safety and efficiency while at the same time providing necessary and appropriate access to adjacent land. Access management is largely based on the function of a roadway.

As discussed in the Functional Classification System section of this report, the higher the road classification, the more emphasis is placed on roadway mobility over roadway accessibility.

Presently Cabarrus and Lincoln Counties are completing access management plans for NC 73 from Concord to Lincolnton. The plans—as currently presented—require the minimum setback of driveways from intersections and limit access. Stanly County needs to examine the use of access management plans on the proposed Albemarle Northeast Connector, the NC 24/27 widening, and all other future four-lane widening projects in the future. Specific elements to be

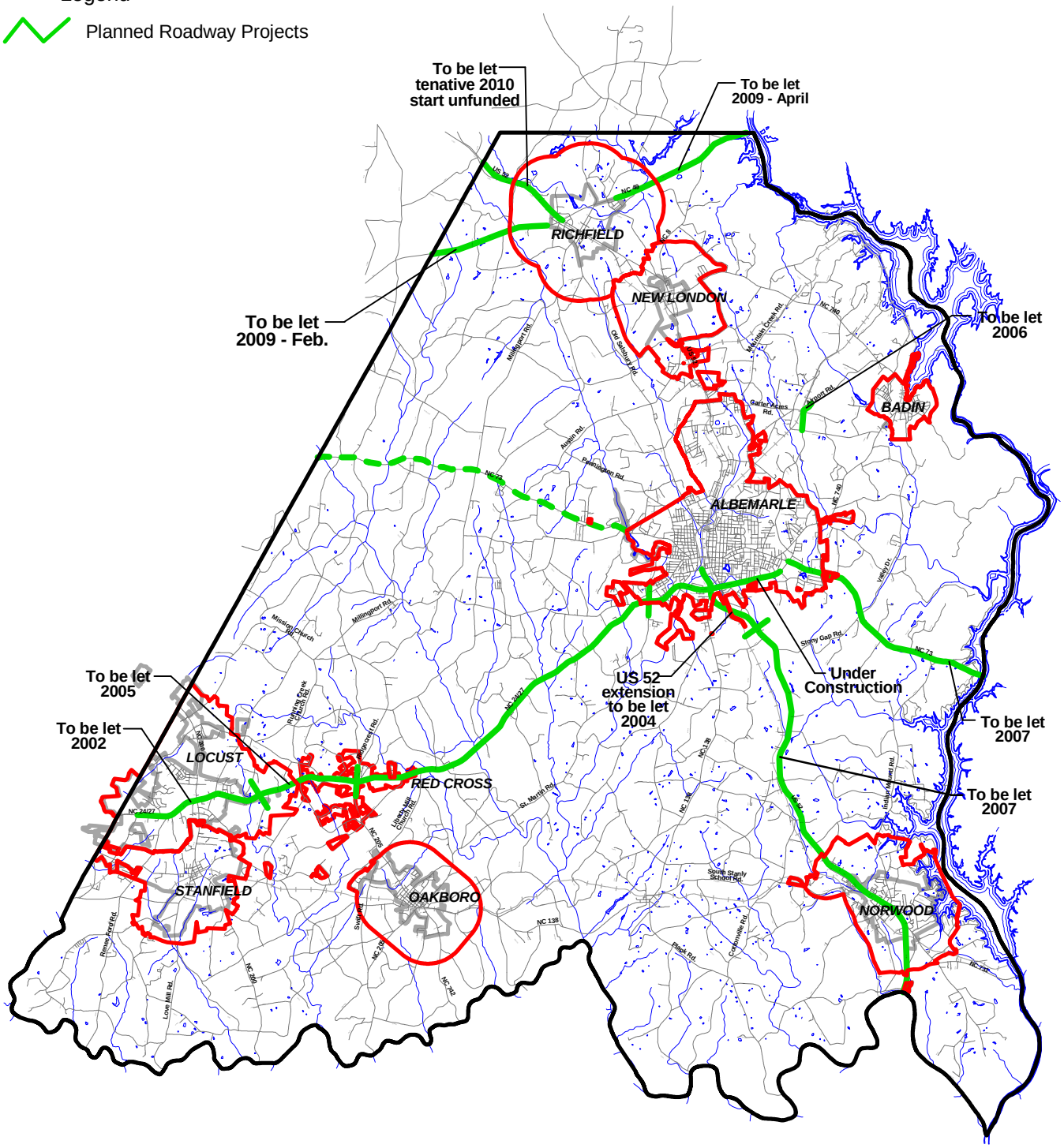

Figure 4-2

Planned Roadway Projects

Land Use Plan
Stanly County, North Carolina

examined include the management of driveway separation distances and the use of right-in and right-outs. Crossovers and lights should be kept to a minimum since statistics indicate accidents and congestion increase when traffic signals are installed.

Roadways Issues

A large number of roadway issues have been raised through this point in the Land Use Plan development process. The following list was developed based on technical interviews with transportation planners, county officials, and the Land Use Plan Steering Committee. As the planning process continues, information obtained from public meetings and other sources will be integrated into this list.

- *Improved access to the remainder of central North Carolina has been identified as a primary concern for the long-range well being of the county.* Currently there are no limited-access highways in Stanly County and only two sections of U.S. 52—one four-lane section in Albemarle and a five-lane section in Richfield—containing more than three lanes of traffic. The lack of better access to regional markets has been identified as a significant hindrance to economic development efforts in the county.

- *Stanly County needs to plan for future roadway improvements now in order for them to be added to NCDOT's TIP.* Presently there is a seven-year waiting period between the placement of a project on the TIP and actual construction. Stanly County should continue with long-range transportation planning efforts to ensure that road projects will be added to the state TIP.

- *The overall circulation system in Stanly County needs to be improved.* Generally there is a lack of a north-south connections especially in the western part of the County. Another connection from NC 24/27 to NC 73 is needed. Further, the secondary and tertiary road system will require improvement as development occurs.

- *The placement of future schools in the county needs to be coordinated with long-range transportation plans* in order to identify ideal locations relative to traffic flow. Interior campus circulation plans that allow for easy drop-off and pick-up and that limit traffic backups and congestion should also be examined.

- *Industrial growth and development needs to be channeled* to locations that support the truck traffic it will generate.

- *The widening of NC 73 to four lanes needs to be examined.* Currently this project is on the needs list for the TIP but is not funded. This improvement would greatly improve access from west-central Stanly County and Albemarle to Interstate 85, Concord, and Kannapolis.

- *Kendalls Church Road, which provides access to the cotton gin in the Millingport area, is inadequately-sized* for tractor-trailers that serve the gin. NCDOT recognizes the problem but the cost in order to remedy the situation is large relative to other needs in the county.

- *Congestion was also brought up as an issue at U.S. 52 at North Stanly High School* where high school students are dismissed and shift changes at nearby industrial businesses occur at the same time.

Bicycle Routes

NCDOT has identified a 187-mile bikeway system in Stanly County consisting of bike routes along existing roads. The system is illustrated in Figure 4-3. Table 4-2 provides a summary description of each route.

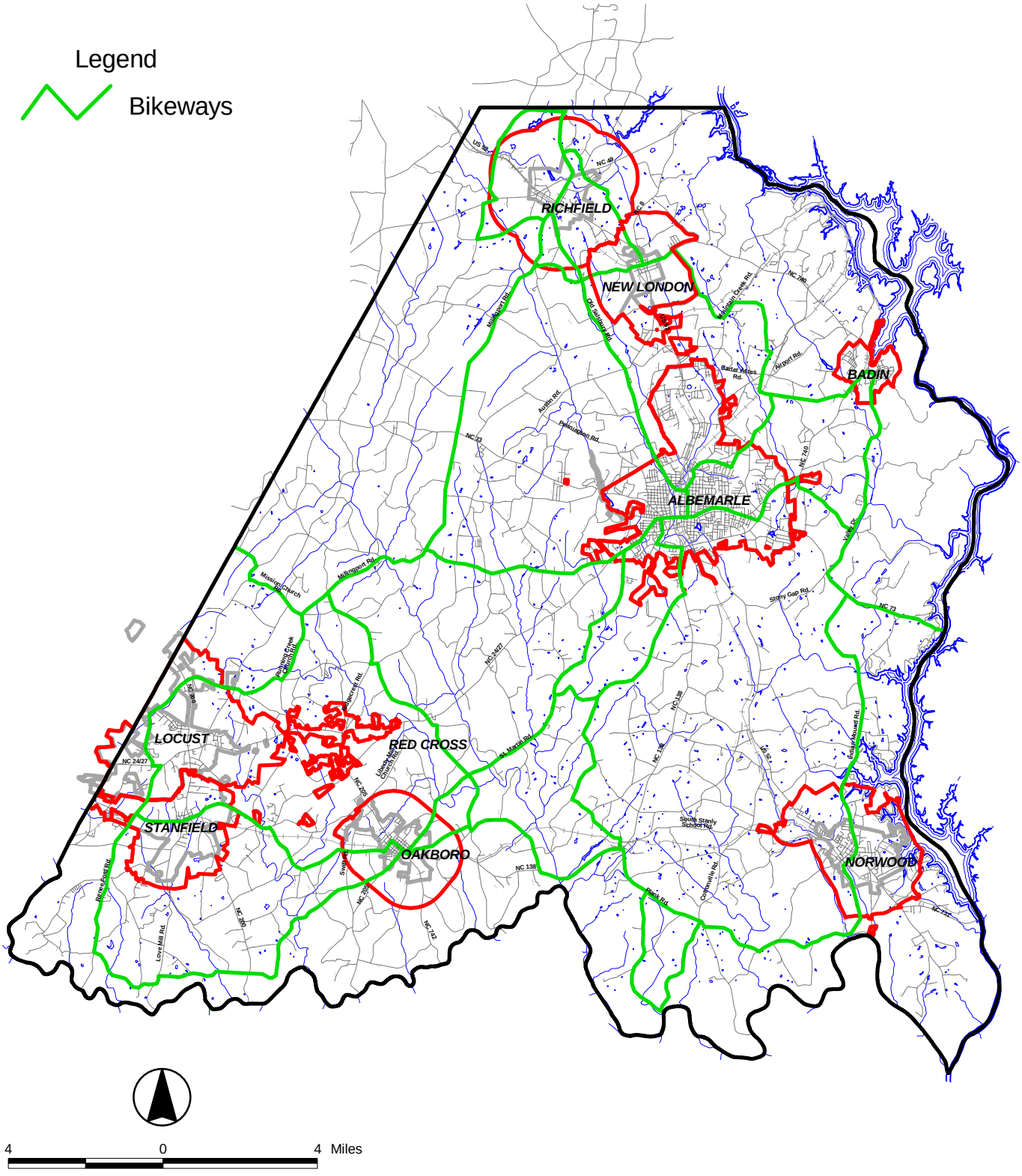

Figure 4-3

Bikeways

Land Use Plan
Stanly County, North Carolina

Table 4-2. Countywide Bikeway System.

Route	Description	Length (In Miles)
1	Connects Badin, Albemarle, and Aquadale	20
2	Connects Misenheimer, New London, Badin, Morrow Mountain State Park, Norwood, Aquadale, Oakboro, Stanfield, and Locust	84
3	Connects Richfield, Albemarle, Oakboro	25
6	Consists of a portion of the cross-state Piedmont Spur Route. Begins in Morganton in Burke County and continues through Stanly County, ending at Snow Camp in Alamance County.	24 (of 200 Miles Overall)
Source: NCDOT.		

Public Transportation

Subscription and on-demand public transportation in Stanly County is provided by the Stanly County Umbrella Services Agency (SCUSA). The system consists of buses and vans and provides county residents with transportation to and from public agencies, employment, businesses, medical centers within and out of the county, the community college, senior center, nutrition sites, YMCA after school program, group trips, dialysis, nursing homes, county schools, daycare's and other areas as well.

Presently there is no other public transportation available that runs along a regular scheduled route in Stanly County.

Railroads

Stanly County is served by four rail systems that connect the county with the rest of central North Carolina and other outside markets. The provision of rail service in the county is consistently identified by one in five prospective industries considering moving into the county. The Winston-Salem Southbound (WSSB), CSX, Norfolk and Southern (NS), and Aberdeen Carolina and Western Railways (ACWR). Collectively these lines provide piggyback service to Charlotte, daily switching service, and access to 50 motor freight carriers that serve the county (see Figure 4-4).

- The ACWR line runs east-west and connects Charlotte with the southern part of Cabarrus and Stanly County. The rail line continues through Stanfield and Oakboro through Aquadale to Norwood and into Montgomery County.

- The WSSB is a north-south from Winston-Salem through Lexington along the Yadkin River into Stanly County past Narrows Reservoir. A spur line goes to Badin to serve the Alcoa Badin Works while the main line goes on through Albemarle then paralleling N.C. 52 past Norwood and to Anson County.

- The NS line comes from the northwest in Salisbury and travels south along N.C. 52 through the northeast tip of Cabarrus County into Stanly County through Richfield and New London into Albemarle.

In addition to commercial cargo-handling rail service, there has been considerable discussion regarding the establishment of passenger rail service within Stanly County. One proposal presented has been the establishment of a tourist train using the ACWR line from Stanfield, Oakboro, and Norwood eastward to Aberdeen in Moore County.

Another proposal being discussed in the very preliminary stages is the potential for providing light rail passenger service between southern Stanly County and the Charlotte metropolitan region. This line—which could potentially use the ACWR line—would connect Oakboro and Stanfield with Mint Hill and Charlotte.

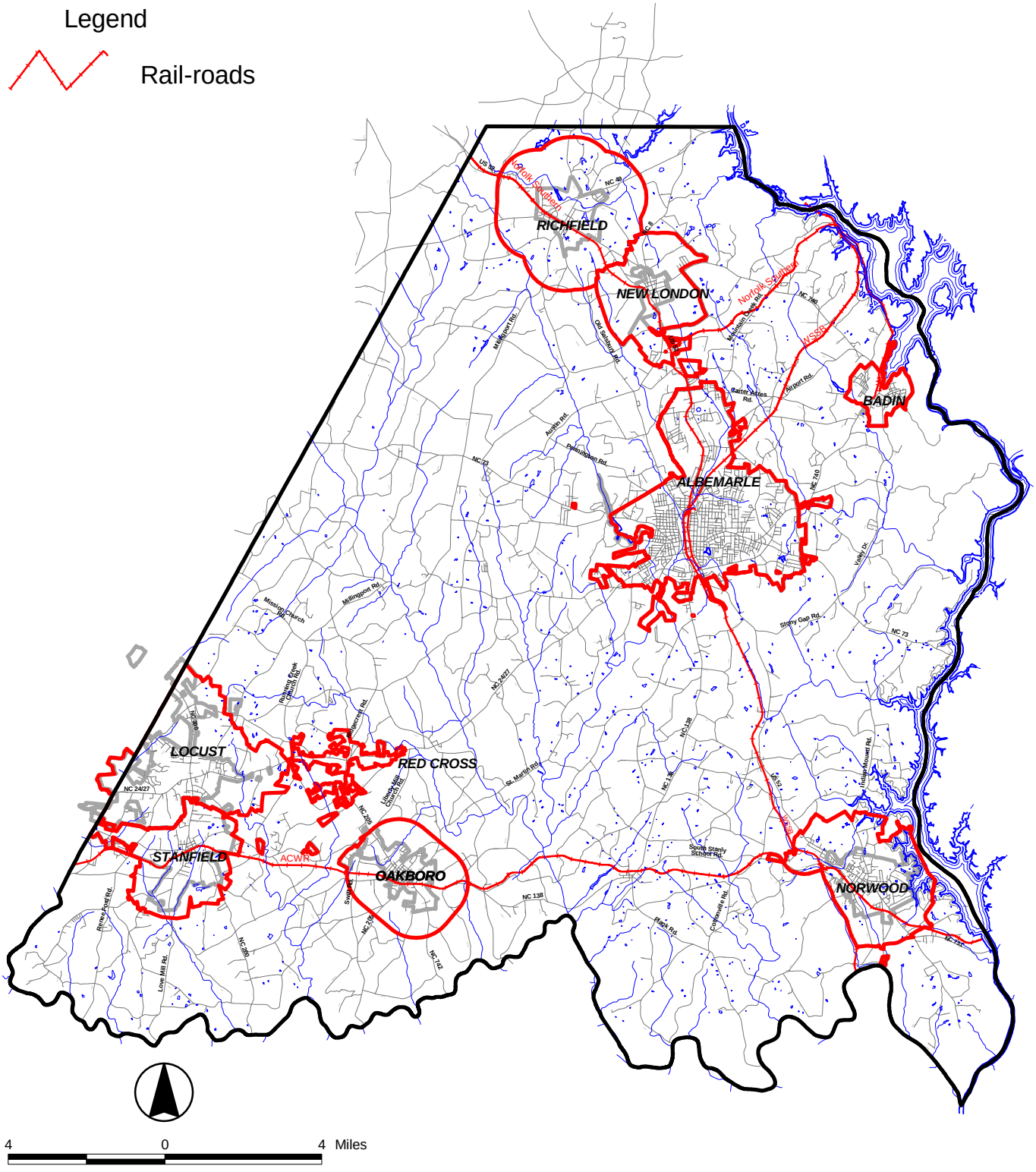

Figure 4-4

Rail Lines

Land Use Plan
Stanly County, North Carolina

It is extremely important to note that this proposal more than likely lies outside of the 20-year framework around which long-range recommendations contained in the Stanly County Land Use Plan will eventually be focused. Generally, plans for a Charlotte light rail system are focusing first on a north-south line generally following the Interstate 77 corridor with potential for expansion to the growing areas of Union and Cabarrus Counties. Regardless, should passenger rail service prove to be a desirable public improvement for the county, this important corridor will need to be preserved to maintain the capability to link to the Charlotte light rail system in the long range.

Conclusions

Stanly County's transportation systems have played a key role in its historical development. This same system will also define the future of Stanly County by focusing transportation improvements and enhancements to transportation corridors in growing areas of the community. Presently access to the remainder of the central North Carolina region is poor. A number of significant transportation improvements are planned for Stanly County that will remedy this situation and impact the county's future. These projects include the widening of NC 24/27 from the western county line to Albemarle in 2005 and from Albemarle eastward by 2007. Other major improvements are planned for the U.S. 52 and NC 49 corridors. Collectively these projects will greatly improve internal countywide transportation mobility and access to adjoining areas of the central North Carolina region.

Stanly County's transportation issues do no end at its borders. Presently the eastern end of Interstate 485 is being extended northward from its present terminus at Lawyers Road in Union County to Cabarrus County. This improvement will bring Interstate 485 to within 13 miles of the county line on the NC 24/27 corridor. Other improvements will improve access to the north and south as well.

Together these internal and external transportation projects will place Stanly County closer to the juncture of regional growth from the Charlotte metropolitan region. As the completion of these nears in the second-half of this decade, Stanly County and its communities will need to be ready to address the growth pressures that will come with these improvements.

Utilities Analysis

As with transportation infrastructure, the provision of utility service determines to a large extent where the future growth of Stanly County will occur. The expansion of public utilities, especially water and sewer systems, contributes significantly in predicting how and where the county will develop. This portion of Section 4 will examine public utilities—water, sanitary sewers, electricity, and natural gas systems—serving Stanly County. Public utilities and services are analyzed for the County including existing areas being served, treatment capacities, along with current demand.

Water

Stanly County residents receive water service from public water or private wells. The analysis contained in this section of the report focuses on public utility systems serving primarily unincorporated areas of Stanly County. Figure 4-5 illustrates existing water lines serving the county.

Stanly County obtains its water from the City of Albemarle. The county has 16 years left on a 40-year contract with the City of Albemarle for the provision of 3 million gallons per day (mgd) of water. Presently the county only uses around 1.5 mgd. As a result, the county has a large potential for expanding its current system. Water is provided by the Stanly County Utilities Department to unincorporated areas as well as the Towns of Locust and Stanfield. Stanly County also owns, and operates the water system for the Town of Badin through the Greater

Legend

Existing Water Lines

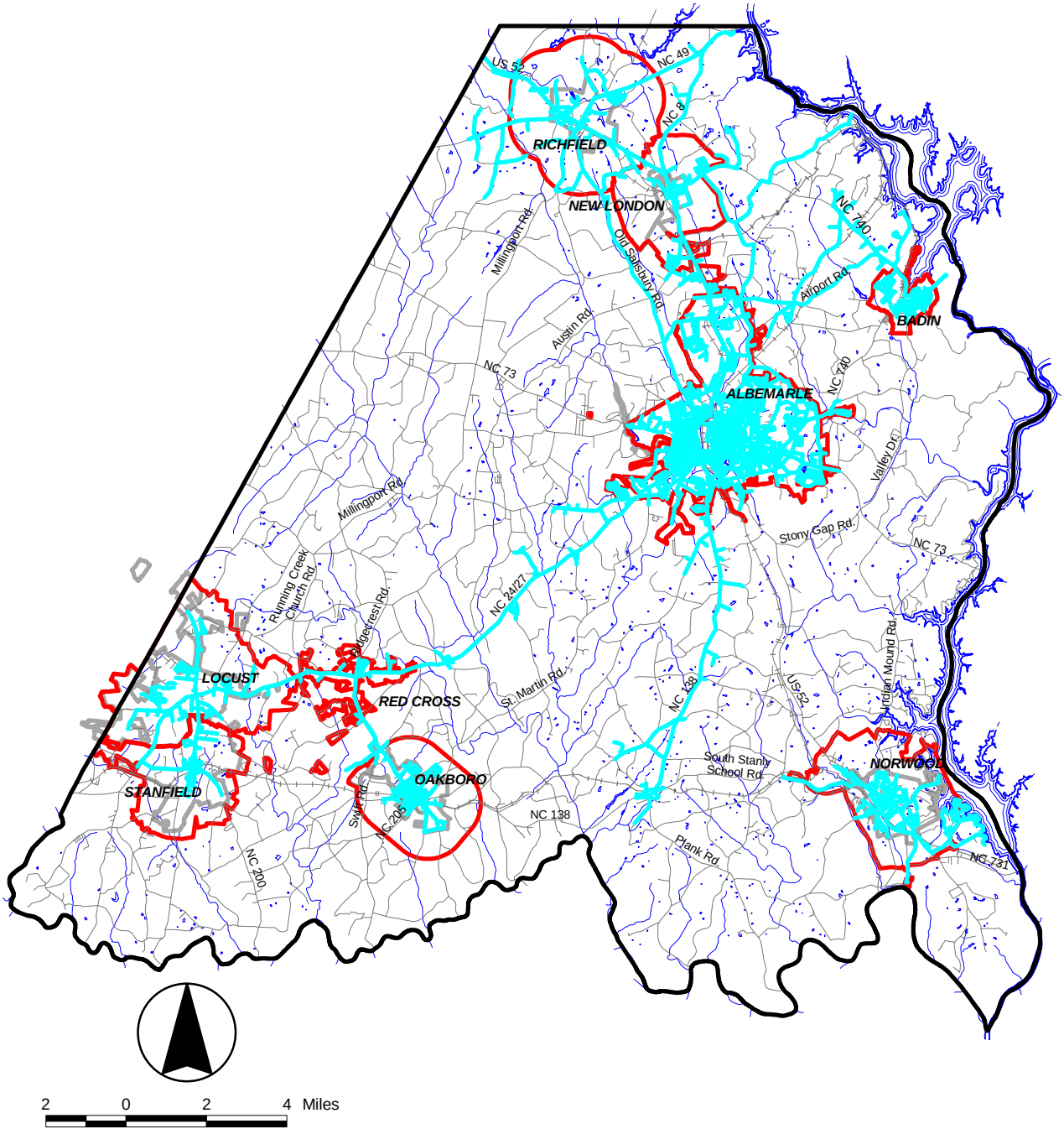

Figure 4-5

Existing Water Service Areas

Land Use Plan
Stanly County, North Carolina

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Badin Water and Sewer Authority. The Yadkin and Pee Dee Rivers provide the water source for all systems in the county.

Future water lines that are funded are as follows:

- A county line that will go west from the city limits of Albemarle along NC 73 to Millingport, turn south on Millingport Road, then south onto Ridgecrest Road ending at NC 24/27.
- A line that will run along St. Martin Road to the Town of Oakboro, paid for by the City of Oakboro.

The City of Albemarle is considering running a line that will run west along NC 49 from Richfield into Cabarrus County to Concord to help alleviate Concord's water shortage.

A separate water system is run by the non-profit Pfeiffer-North Stanly Water District. The District serves the northwestern part of the county north of Rogers Road to the west, and west of Mountain Creek Road to the east. Source water for the District comes from the City of Albemarle.

The county had been considering an expansion of the county-owned system to cover more of the unincorporated areas of Stanly County. Presently, however, there is no definitive plan to expand water services, funding mechanisms, and the phased expansion of the present system.

Norwood maintains a water system serving areas within its corporate limits. The Piney Point Water District serves an area in northern Stanly County. The district purchases water form the county. The system is maintained by the county through a utility service district local tax.

Sanitary Sewer

Stanly County is served mainly by private septic systems with a few areas being served by municipal sanitary sewer systems. Figure 4-6 illustrates existing sanitary sewer lines serving the county.

The sewer treatment plant is an activated sludge/tertiary with a capacity of 16 mgd with the potential of doubling. The Towns of Norwood and Oakboro have wastewater treatment plants along with the City of Albemarle. Stanly County owns and operates the sewer system for the Town of Badin through the Greater Badin Water and Sewer Authority. The Town of Richfield has a sewer line that extends to it from the City of Albemarle along Town Creek. Currently the western portion of Stanly County is not served by sewer lines, nor is the southern area of the county near Aquadale. Sewer systems throughout the county use gravity flow but most systems have to be pumped because of the terrain that consists of rolling hills.

New sewer lines that are funded by State grants and loans to serve Stanly County schools are as follows:

- A line along NC 73 from the Albemarle city limits to Millingport and the Millingport School.
- A line along NC 24/27 from Albemarle city limits to Endy Road and Endy School.
- A line running along Stanly School Road from Cottonville Road and South Stanly High School to Aquadale Road and Aquadale School.
- A line that is funded by a School Bond and Federal EPA Grant runs along Ridgecrest Road going south from Ridgecrest School, than following NC 24/27 west to Bethel Church Road to a new K-8 school site at the intersection of Bethel Church Road and Branton Road.

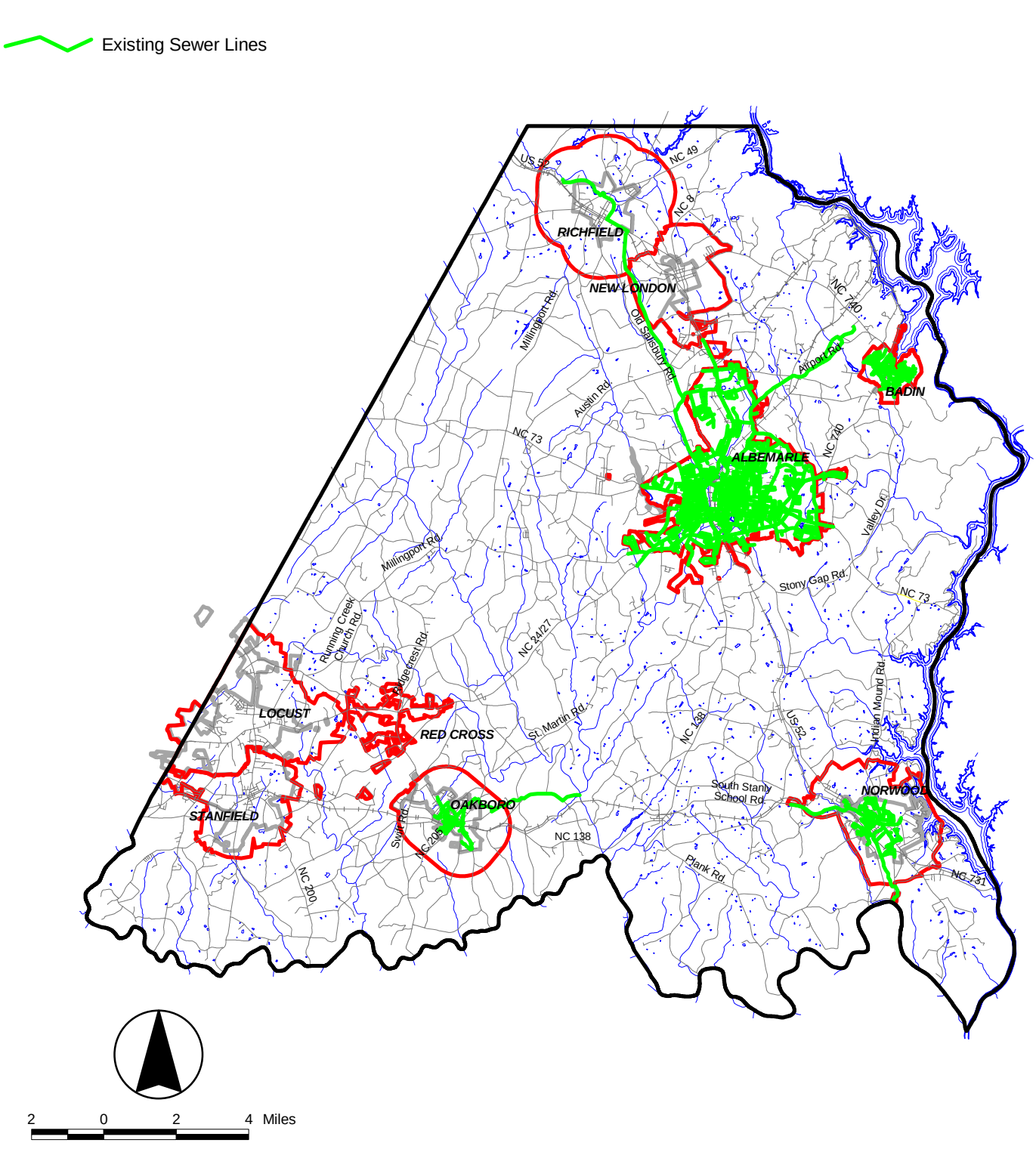

Figure 4-6

Existing Sanitary Sewer Service Areas

Land Use Plan
Stanly County, North Carolina

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Electric and Natural Gas

The provision of electrical power and natural gas, though not as critical a determining factor in the pattern of development as water and sanitary sewer service, is critical to the future of any area. All of Stanly County is served by electricity. Providers include Duke Power, the North Carolina Electric Membership Corporation, and the North Carolina Municipal Power Agency #1. The City of Albemarle, Carolina Power & Light, Duke Power, and Union EMC all distribute power in Stanly County.

Natural gas can be a critical factor in determining where certain types of industries that are dependent on natural gas can and cannot locate. Natural Gas is provided to Stanly County by the North Carolina Natural Gas Company, which is owned by Carolina Power and Light, to limited areas of the county. A 16-inch transmission line serves the southwestern portion of Stanly County south of Stanfield. Natural gas is not provided in the western part of the county including Locust and extending northward to New London and Richfield. Also not served by natural gas are the southeastern part of the county, south of Aquadale and Norwood. A six-inch transmission line comes in from Anson County just east of Hills-View Road and continues north along Aquadale Road. The line then serves the Albemarle area as well as the airport and Badin. A three-inch transmission line also serves the Aquadale and the Norwood area.

Conclusion

Water, sewer, and natural gas do not serve a large portion of the county. Where extensions of lines occur will greatly affect how development takes place throughout the county, and therefore should be planned carefully. Areas that already have higher densities as well as those with contaminated wells should be prioritized first, while less desirable development areas should be avoided.

For natural gas areas that are close to existing lines it should be analyzed to locate a large industry that could pay for extending the lines and in turn would bring the lines closer to other potential smaller industries that could locate next to the larger one. Or possibly the cost could be shared between several industries that locate together.

Community Facilities Analysis

Education

In 1996 Stanly County Schools and Albemarle City Schools merged together to form Stanly County School District. In 1999 there was 19 schools with 521 teachers and 9,955 students enrolled (see Table 4-3). Two new K-8 elementary schools—Kendall Valley School northwest of Albemarle and Runny Creek School east of Locust—were completed in 2002 both with capacity.

Table 4-3. Stanly County School District Enrollment, 1999.

Type	Number of Schools	Number of Teachers	Grades	Number of Students
Elementary	14	332	K-8, K-5	6,532
Middle	1	33	6-8	556
High School	4	156	9-12	2,867
Total	**19**	**521**		**9,955**

Source: Stanly County Economic Development Commission.

Note: Does not include statistics for recently completed Kendall Valley and Running Creek Schools.

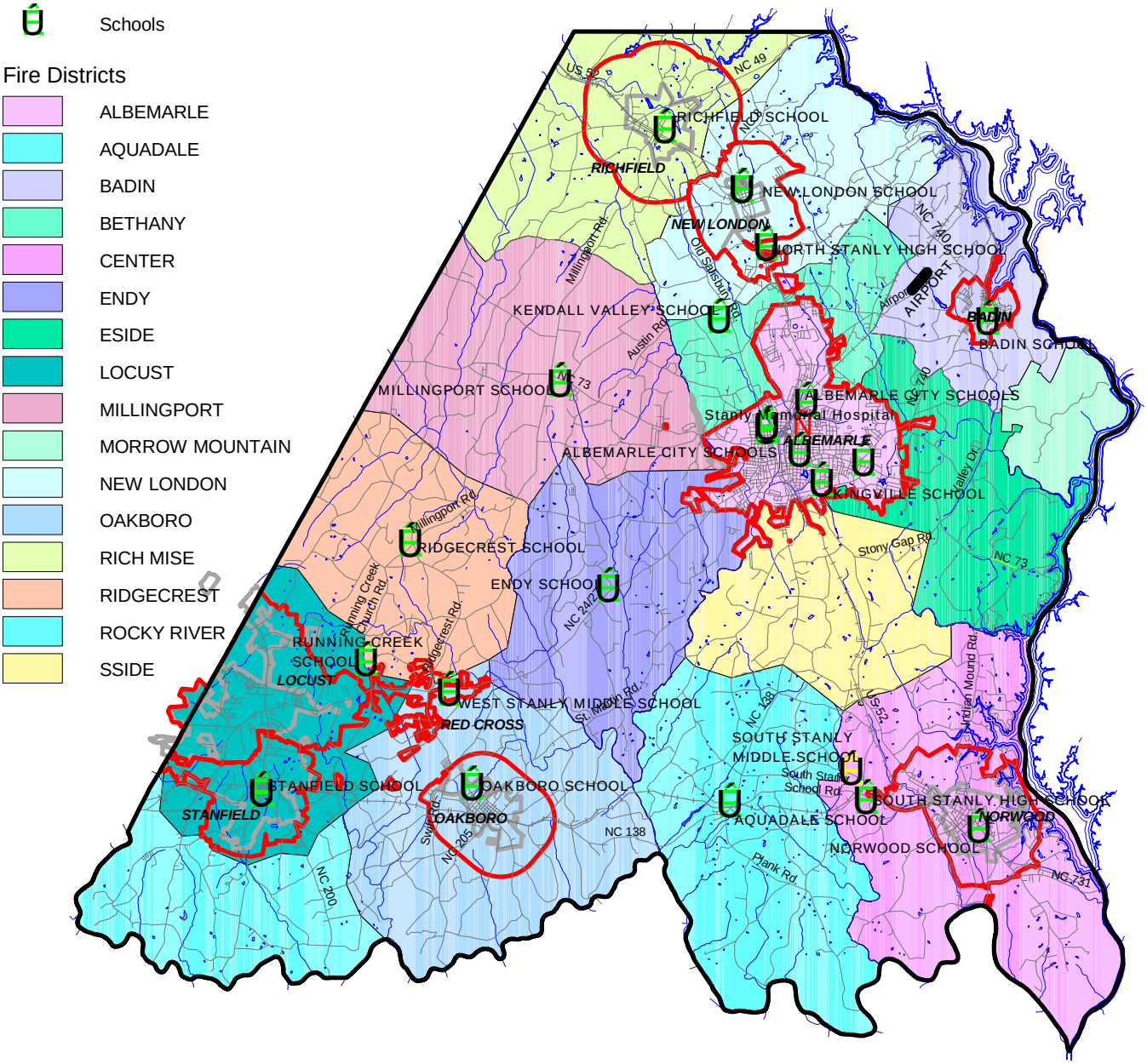

Figure 4-7

Community Facilities

Land Use Plan
Stanly County, North Carolina

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The four High Schools are dispersed throughout the county: North Stanly High School just south of New London, Albemarle High School, South Stanly High School just east of Norwood, and West Stanly High School in Red Cross (see Figure 4-7). Presently the four high schools are experiencing problems with capacity due to growth in western Stanly County. West Stanly High School is presently very crowded, and South Stanly High School has plenty of room to expansion. The county school system is undergoing redistricting to help redistribute the enrollment population. School location has been identified as a problem in the past. Water and sanitary sewer availability need to be considered along with roadway infrastructure when choosing a location for a new school.

Higher/Continuing Education

Stanly County is home to two institutions of higher learning: Stanly Community College and Pfeiffer University. Stanly Community College is located in the City of Albemarle and is accredited community college offering associate degrees. Degrees offered vary from industrial to technological and allied health areas. Pfeiffer University, founded in 1855, is located in Misenheimer. Pfeiffer University offers both Undergraduate and Graduate Degree programs including an MBA program.

Safety Services

Fire Districts

There are 16 fire districts and departments within Stanly County (see Figure 4-7). Each departments—with the exception of Albemarle's—are volunteer departments. Albemarle's and Norwood's departments are municipally-operated. Funding for all but one of the non-municipal departments is provided through countywide property taxes.

Emergency Medical Services

Stanly County Emergency Medical Services provides emergency treatment and transport prior to hospital arrival as well as patient transfer between hospitals and convalescent transport. The service is sponsored by the Stanly Memorial Hospital. There are three locations of operation that include Albemarle, Locust, and north of Norwood. Four units are manned 24 hours a day, seven days a week. Currently there are eight ambulances along with one staff vehicle. Five vehicles are on the road each day while three are reserved for use during maintenance. The fire departments provide Medical First Responder Program countywide and are trained to provide care until the ambulance arrives. Plans are currently underway to relocate the Locust facility to Red Cross on the NC 24/27 corridor at the NC 205 intersection.

Hospitals

Stanly County Memorial Hospital is a 119-bed facility that is currently expanding and is expected to increase its capacity by 50 percent when additions are complete. The hospital is located in the City of Albemarle. Some of the services that the hospital provides include but are not limited to, cardiac care unit, intensive care unit, behavioral health unit, outpatient center, radiology department, cardiac catheterizations for heart patients, Occupational Health Services, and a physical rehabilitation unit.

Albemarle-Stanly County Airport

Albemarle-Stanly County Airport is located northeast of Albemarle near Palestine. The airport, which was dedicated in 1979, is a transport category facility that can accommodate Boeing 737-300 class aircraft. The airport contains two runways—a primary 5,500-foot runway and

secondary 3,500-foot runway. In addition to general aviation activities, the airport is home to a number of units of the North Carolina Air National Guard including elements of the 145th Airlift Wing based at Charlotte/Douglas Regional Airport. FEMA is also planning to construct a forward storage facility at the airport.

Increasingly the airport has been identified as an important economic development asset to the county. Executive jet usage at the airport has increased in recent years as well. To accommodate this growth and to further enhance countywide economic development activity, the airport has identified a number of improvements to enhance services to both civilian and military aircraft. A new state-of-the art air traffic control tower was completed in May 2001, and a 1,000-foot extension of the runway is planned to allow for fully-loaded take-off of 737-300 aircraft from the principal runway.

Other improvements include a new eight-acre aircraft parking apron that will accommodate C-130 and C-17 military airlift aircraft, relocation of the fuel farm, construction of a new passenger terminal, as well as additional corporate and t-hangars. Field police, crash, fire and rescue equipment, and facilities are also planned for the airport.

The airport is protected through county zoning by an Airport Overlay District. The overlay protects against the construction of tall structures within the runway approaches and other critical aircraft operations areas.

The airport also contains a 30-acre commercial/industrial park for aircraft-related development. Presently the airport is planning to expand the commercial/industrial park by another 40 acres.

Conclusion

When considering where new and what types of development should occur it is important to consider what community facilities are within the vicinity. It is critical to consider whether school capacity in the area can handle more residential construction or if an industry needs easy access to the airport. Also to be considered is whether fire and emergency services can provide adequate protection for an area.

SECTION 5: ISSUES AND OPPORTUNITIES

Introduction

In order to identify and define development opportunities, as well as goals and objectives for the Land Use Plan, it is first necessary to examine all the issues impacting Stanly County and its citizens. The identified planning issues fall into three categories—development issues, infrastructure issues, and community image issues—and form the basis of the development opportunities for the county. Development issues and opportunities in turn serve as the justification for the plan's goals and objectives.

Citizen Participation Process

After the Phase I report has been reviewed by the Land Use Plan Steering Committee at its July 2001 meeting, a series of four public input meeting are planned to take place in mid-August 2001. The meetings, which will take place throughout the county, will allow residents to review the findings of the existing conditions analysis and preliminary issues identified here. At the conclusion of the public meetings, the issues identified in this section of the report will be updated.

Issue Identification

Critical issues concerning development in Stanly County were identified by using the elements identified during analysis of existing conditions and from the March 2001 Land Use Plan Steering Committee meeting. This information was summarized into the following three categories: development issues, infrastructure issues covering transportation, utility, and community facilities, and community image issues. Figure 5-1 provides a summary of issues and opportunities facing the future of the county.

Development Issues

Stanly County lies at the edge of the growing Charlotte metropolitan region, a region that already encompasses much of Cabarrus and Union Counties. As indicated in Section 2, some census tracts in Stanly County have experienced population growth rates in excess of 20 percent. Specific development issues to be addressed in the Land Use Plan include the following:

- Growth from the Charlotte metropolitan region is already impacting parts of the county, particularly western Stanly County near Locust, Red Cross, Stanfield, and Oakboro. New growth needs to be managed so that it does not overwhelm the ability of the county and its communities to provide needed services.

- Stanly County is just as likely to suffer from the effects of rural sprawl, as it is urban sprawl from its towns to its rural areas. While parts of western Stanly County are definitely at the frontier of the Charlotte metropolitan region, parts of rural Stanly County are experiencing from scattered, unsystematic growth away from its historical population centers.

- Agriculture is a legitimate land use and it should be planned for and supported by adjacent land uses. Farmland is a valuable natural resource in Stanly County, and measures are needed to protect and preserve prime farmland from development.

- The county needs to work to identify, prioritize, and protect its most valuable land assets. The "rolling Kansas" of west-central Stanly County, the Pee Dee River Drive corridor, and land along Tillery Reservoir and Narrows Reservoir areas have all been identified as valuable countywide assets worthy of preservation. Intensive development—while it should be encouraged in certain areas of the county—need to be discouraged in places.

Flood-Prone Areas
Prime Farmland Soils
Major Roadways
Scenic Byways
Incorporated Municipality

Pfeiffer University
Tie future development to road, utility infrastructure
Recent increased development activity in New London, Richfield areas of Northern Stanly County
Tuckertown Reservoir
Tuckertown Dam
Widening US 52 and NC 49
Increased development activity along lake shorelines
Uwharrie State Scenic Byway
Misenheimer
Richfield
Narrows Reservoir
Rolling Kansas State Scenic Byway
New London
Albemarle-Stanly County Regional Airport
Narrows Dam
Falls Reservoir
Alcoa Badin Works
Badin
Falls Dam
Growth pressure from Charlotte Metropolitan Region
Need to improve access to regional markets, Interstates 85, 485
Mitchfield
ALBEMARLE
Preservation of Rolling Kansas Agricultural Area in Western Stanly County
Stanly Community College
Morrow Mountain State Park
Sandhills State Scenic Byway
Widening of NC 24/27 to four lanes to Albemarle
Locust
Red Cross
Increased development activity along lake shorelines
Pee Dee Valley State Scenic Byway
Completion of Interstate 485 in Mecklenburg County will bring Charlotte bypass within 13 miles of county
Increased development activity in Western Stanly County in Locust, Oakboro, and Stanfield
Reservoir Tillery
Norwood
Oakboro
Norwood Dam
Encourage new development adjacent to Stanly County's cities and towns
Stanfield
Aquadale
Rocky River provides excellent regional greenway opportunity with links to Union, Cabarrus, Mecklenburg counties
Improve recreational access to Rocky River
Site of Battle Of Colson's Ordinary (1780)

4 0 4 Miles

Figure 5-1

Issues and Opportunities

Land Use Plan

Stanly County, North Carolina

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- New development in the county should be focused adjacent to existing population centers where utilities infrastructure and other services exist. As development occurs, the county needs to plan and be ready to provide public facilities and services. Until now, Stanly County's compact development pattern did not necessitate the provision of considerable services outside of the existing population centers within the county. Eventually community facilities such as parkland and open space will need to provided to accommodate future citizens as the county grows.

- Stanly County needs to continue to provide a healthy supply of land for commercial and industrial development. Presently the county is experiencing residential growth, however commercial and industrial development will help ensure that the tax burden to pay for necessary infrastructure to support the growth is not placed completely on residential taxpayers. Further, specialized infrastructure in support of commercial and industrial ventures—including natural gas lines, rail lines, and other infrastructure—need to be provided for these important developments.

- As the county continues to grown outside its incorporated areas, consideration will need to be given to the establishment of parklands serving this growing population.

Infrastructure Issues

Infrastructure issues for Stanly County focus on transportation, utilities, and community facilities that serve the people of Stanly County:

- The need to improve Stanly County's transportation linkage to the remainder of central North Carolina and outside markets has consistently been identified as an issue of concern for the county. Planned transportation improvements such as the extension of Interstate 485, the widening of NC 24/27, NC 49, and U.S. 52, as well as other major Stanly County roadways will bring Stanly County closer to the outside world. The county will need to embark on a program of access management, as well as other measures, to protect these investments from congestion. In addition, improvements to the second- and third-tier roadway system will also be needed to provide access to individual sites throughout the county.

- Coordinate utility infrastructure planning with land use planning objectives to be developed later in the Land Use Plan development process. There has been considerable discussion on future utility infrastructure needs.

- Center future development on community facilities such as new schools, fire stations, and similar assets. Such facilities—particularly schools—offer an excellent focus around which to building residential neighborhoods. This will encourage less vehicle miles traveled by bringing school-age populations nearer to their school.

- Continue to invest in the Albemarle-Stanly County Airport. This asset—which is playing an increasingly important role in the economic development activities of the county—is unique among rural regional airports in North Carolina for the high level of services to its civilian and military aircraft base. Approximately $50 million in new investment has been completed for the airport or is planned. The county needs to continue to protect the airport through its existing airport overlay district.

Community Image Issues

Community image issues were identified in the context of "what makes Stanly County a good place to live, work, and play." Most comments centered around the attributes associated with the county and individual areas within it. The preservation of these attributes will require the management of future growth. The following observations were made with respect to community image:

- Small-town, rural atmosphere of Stanly County is one of its most-attractive features. When asked, most people said they would like to see this character maintained through the preservation of farmland, open space, and natural resources. Other characteristics discussed included the perception of safety in the county, family values, and low residential development densities. Countywide assets to protect include the Yadkin Pee Dee Lakes, the Uwharrie Mountains, Morrow Mountain State Park, and the "rolling Kansas" agricultural area in west-central Stanly County.

- Stanly County, though it is remains mostly rural in terms of overall land use, offers its citizens a great variety of lifestyle choices, whether it's living on a farm, in the growing suburban areas of western Stanly County, or in a city such as Albemarle. The proximity to the Charlotte metropolitan region provides access to jobs, goods, and services. At the same time, Stanly County is distant enough that is not negatively influenced by the impact of the Charlotte region.

- A strong plan is needed to ensure orderly growth in Stanly County. Growth is bound to occur, particularly in western Stanly County, therefore the county needs to be pro-active in its long-range planning. Further, the county and the municipalities of Stanly County need to work together to minimize the negative effects of sprawl on the countryside.

SECTION 6: LAND USE PLAN RECOMMENDATIONS

This section of the report discusses recommendations that address the issues summarized in Section 5 of this report. Section 6 contains the following information:

- Principles to guide long-range land use planning on a countywide basis;
- Descriptions of the Land Use Categories proposed for the Stanly County Land Use Plan; and
- A summary of growth management and implementation strategies and tools identified to support the Land Use Plan recommendations.

Section 7 provides an implementation plan to guide the achievement of the plan goals and recommendations and is included at the end of this report.

Introduction

The Land Use Plan Recommendations are intended to guide the direction and character of long-range development in Stanly County over the next 20 years. It is a tool to be used by both public and private decision-makers that take part in the process of managing growth and development of Stanly County. These recommendations take into consideration a wide range of current and future development patterns. The plan will directly serve as a framework for land use and zoning decision-making for the study area identified in Figure 1-2 by elected and appointed commissions and boards as well as county staff. Figure 6-1 illustrates the long-range Land Use Plan Recommendations for Stanly County.

The Stanly County Land Use Plan was developed through an evaluation of the existing physical and socioeconomic environment, current development trends, and public input. The constraints and opportunities presented earlier in this report have been addressed in the plan recommendations. The plan attempts to balance the reality between existing conditions and the possibilities of future development patterns. The Land Use Plan for Stanly County is illustrated in Figure 6-1.

Principles of the County Land Use Plan

The County Land Use Plan responds to a series of issues and opportunities that were defined though both the analysis of existing conditions and the extensive community input that was completed earlier in the planning process.

Countless residents expressed concern that future development in Stanly County will continue to encroach upon open areas and farmland. Many others were fearful of Stanly County becoming another Charlotte/Mecklenburg County with its accompanying traffic, sprawl, higher housing costs, and other negative manifestations of urban development.

Although residents generally agreed that it would be impossible and undesirable to stop development in the county, the question remained: How can new development be managed so that the unique physical and social qualities that define the rural areas of Stanly County as well as the collection of cities and towns could be preserved?

Through a series of nine basic planning principles, the Land Use Plan addresses the proposed transition from medium to relative dense development patterns in Stanly County's eight cities and other population centers to the rural, farming landscape of much of the rest of the county.

LEGEND

- Primary Growth Area
- Secondary Growth Area
- Agricultural Conservation Area
- Extra-Territorial Jurisdiction
- Incorporated Area

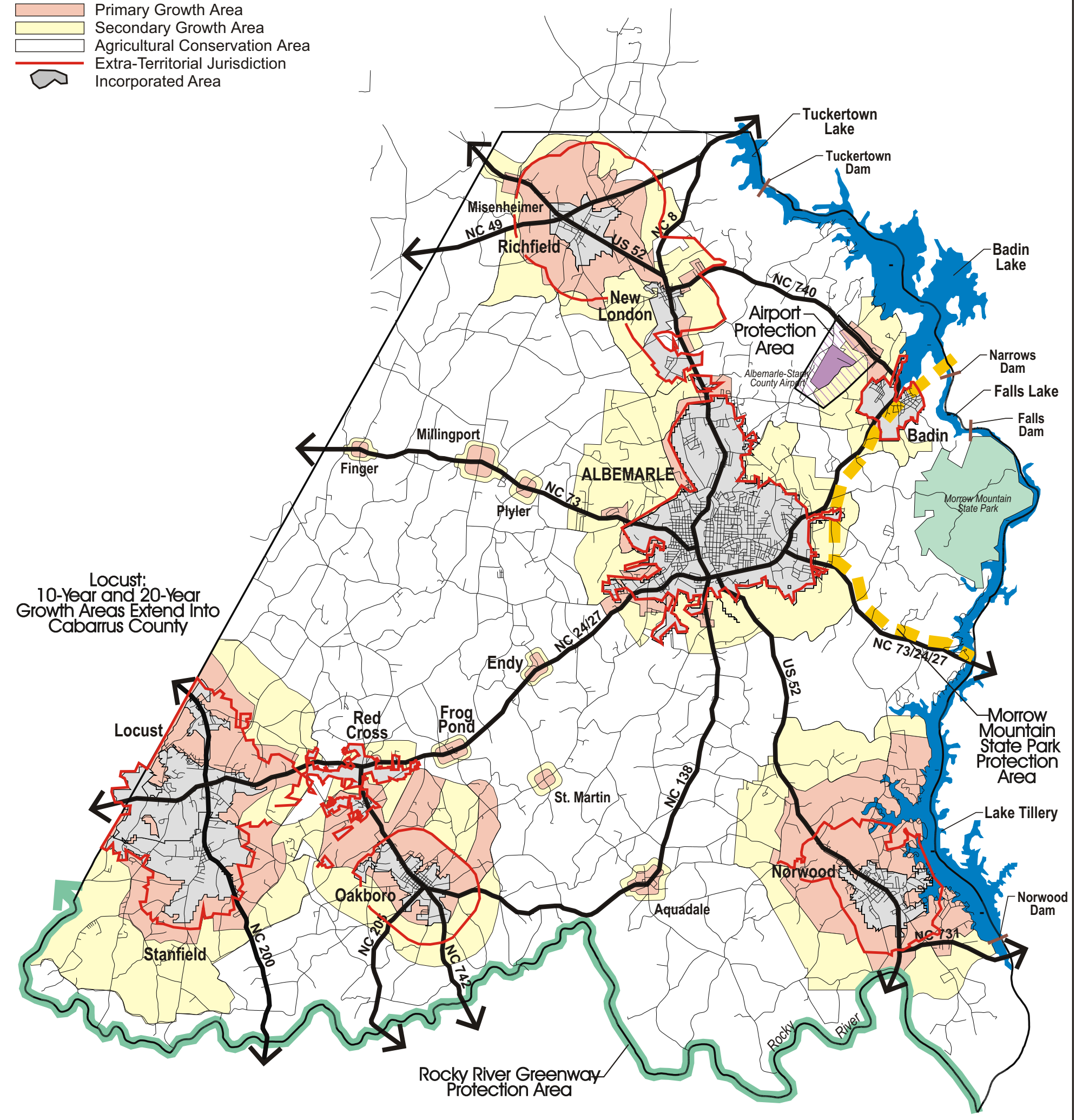

Figure 6-1

Long-Range Plan Recommendations

Land Use Plan
Stanly County, North Carolina

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The Land Use Plan is designed to guide future development so that Stanly County's character is not lost to the gradual and insidious effects of rural sprawl. The plan attempts to lay out a program to preserve the county's natural attributes, quality of life, and productive agricultural land. The Land Use Plan attempts, through a series of general principles and specific recommendations, to promote and retain Stanly County's assets through the logical location of intensive land uses, the recognition of agriculture as an essential element of the overall community, and the conservation of open spaces and sensitive lands.

The Land Use Plan also recommends a close association between land use decision-making and public infrastructure investment. While the Land Use Plan does not make specific recommendations for future roadway improvements, specific recommendations for utility capital improvements, or specific recommendations for community facility investment, it does seek to coordinate these endeavors within an overall program guided by the Land Use Plan.

Table 6-1 provides a summary of the nine land use principles guiding the land use plan recommendations. Each principle is described in detail below:

Table 6-1. Stanly County Land Use Plan Principles.

Number	Principle
1	Future growth and development in Stanly County should be directed to the county's existing cities, towns, and other, established population centers.
2	Protect farming as an essential element of Stanly County's future in terms of culture, economy, and land use.
3	Focus development to areas of the county where the physical conditions of the land can naturally support and are appropriate for non-agricultural land uses.
4	Protect Stanly County's unique natural and cultural resources
5	Use long-range planning for public infrastructure investments—public utilities, road infrastructure, and emergency/safety service—as an opportunity for community building in the county.
6	Encourage land use patterns that provide a compact mix of land uses at a higher intensity of development.
7	The provision of parks, recreation, and open space needs to be an element of future land use planning in Stanly County.
8	Use the Land Use Plan recommendations to promote the economic development of Stanly County through a balance of traditional economic development practices, and the recommendations of the North Carolina Central Park concept.
9	Cooperation between the county, communities, and other entities offers the best solution to future land use planning in Stanly County.
Source: Woolpert LLP, 2002.	

1. Future growth and development in Stanly County should be directed to the county's existing cities, towns, and to other established population centers.

Historically Stanly County's development pattern focused on the small cities and towns located in every corner of the county. Regardless of the emergence of the industrial economy through the "cotton mills in the cotton fields" initiative a century ago, or the arrival of the railroad, or the improvement of roadways linking Stanly County to outlying markets, the majority of the population living in the county lived what are today's nine incorporated municipalities: Albemarle, Badin, Locust, New London, Norwood, Oakboro, Red Cross, Richfield, and Stanfield. Other, much smaller population centers include unincorporated towns and crossroad settlements such as Aquadale, Endy, Millingport, and Misenheimer.

A central recommendation of the Stanly County Land Use Plan is to encourage development in the eight cities first, then to areas adjacent to them. Where utilities and good roadway access is available, development should be focused toward the larger towns—Aquadale, Endy, Finger, Frog Pond, Millingport, Misenheimer, Plyler, and St. Martin—as well. This recommendation is based on the reasoning that all these communities are the portions of the county that are most

likely to be capable of absorbing and sustaining new development with the least amount of public investment.

A look at any map of the county tells this story. Fifteen of Stanly County's schools are located within the corporate boundaries of the county's eight municipalities, or within one mile of them. Four more—schools in Aquadale, Endy, and Millingport, and West Stanly High School—are located within an unincorporated town. Stanly County's institutions of higher learning—Pfeiffer University in Misenheimer, and Stanly County Community College in Albemarle—are also located within established population centers. Most post offices are located within a city or town, and all but one of Stanly County's 12 fire stations are located within or near a city or unincorporated town.

The cities and towns of Stanly County also contain the most extensive road systems. Generally these roads are designed to provide a higher level of service than the farm-to-market roads in rural areas. Since many of the road systems in these communities are based on a grid system, they are easily expandable and can accommodate greater influxes of traffic, particularly during peak times.

Expanding existing utility systems in communities throughout the county offers the best solution to providing affordable drinking water distribution and sewage treatment services to existing and new citizens in Stanly County. Stanly County's water and sewer distribution and collection infrastructure are centered on distribution systems located within these communities.

In support of this principle, strip commercial development along major highway corridors such as NC 24/27, NC 73, NC 49, and US 52 will need to be avoided. Presently an excellent model for this already exists in the study area since historically small-scale commercial activity has centered on smaller towns and crossroad settlements at major intersections along these corridors. Examples on the NC 24/27 corridor southwest of Albemarle include Red Cross and Endy. On NC 73 west of Albemarle, they include Plyler, Millingport, and Finger. Many other examples can be found in the county. While each one of these examples may not be able to support commercial activity—in some cases these towns and settlements will be undesirable places to develop—they do present a good model for future consideration.

Focusing development to cities and towns also provides a means to help achieve the second major Land Use Plan principle, protecting Stanly County's farmlands.

2. Protect farming as an essential element of Stanly County's future in terms of culture, economy, and land use.

Stanly County's history and culture is bound to the legacy of a farm economy. Farming continues to play an important role in the county's economy, and is the second-largest single land use in the Land Use Plan study area. That role is slowly being threatened by the sprawling effects of low- to moderate-density residential development in all parts of the study area.

Stanly County is not being threatened by urban sprawl like in Cabarrus and Union Counties. Stanly County's sprawl problem is more tied to rural sprawl wherein farmland is increasingly interspersed by large-lot single-family residential properties as well as limited commercial and public/semi-public development. On many terms farming is as incompatible with residential development as an industrial activity such as a foundry or a mill. Farms produce noises, smells, dust, and other potentially unpleasant effects as a normal course of their operation. Unfortunately the state of North Carolina does not afford its farmers the protection of "right to farm" laws like other states. These laws protect farmers from nuisance complaints by residential neighbors. Farms are also supported by a road network specifically designed to meet the needs of the agricultural economy. Farmers often experience conflicts with drivers as large machinery is moved from field to field and from farm to market.

Because of these factors, for farming to continue to be marginally profitable and free of nuisances in Stanly County, large areas of farmland need to be conserved to provide a critical mass that will reduce the number of farmer-suburbanite and farmer-driver conflicts. While the Land Use Plan will encourage the preservation of individual properties, emphasis will also be placed on protecting farmland on a holistic basis.

In many places, farmland is viewed as open space awaiting development for more-intensive development such as housing, retail, or other more intensive development activity. This viewpoint belies a couple of important facts about farming in Stanly County. First, farming isn't simply an occupation, but an employment and lifestyle that supports the framework of communities that exist in Stanly County. In relative terms farming is not a large employer in the Stanly County community. While only 2.1 percent of Stanly County workforce counted themselves as employed by the agricultural/forestry/fisheries industries in the U.S. Census in 2000, in 1999 there were 55,000 acres of farmland in Stanly County that produced an estimated $61 million in cash receipts (North Carolina Department of Agriculture).

Second, Stanly County, like most developing rural counties, is more than likely unprepared for the ramifications of build-out of all agricultural lands in the study area. According to the Land Use Plan Phase 1 Report, approximately 63,542 acres of land is used for farming within the Land Use Plan study area, or approximately 36 percent of the study area. This land, along with an additional 89,048 acres of wooded land, were they to be fully developed under present zoning, would result in an additional 358,567 residents to the Stanly County population over the next century. Appendix B provides an explanation of the manner in which this figure was calculated.

Before moving on, it is important to discuss the issue of prime farmland relative to the preservation of farmland areas in Stanly County. Section 3 of this report discusses extensively the issue of prime farmland in the county. Approximately 20 percent of the county's land area (including municipalities outside of the study area) is defined as those soils that "…are best suited to producing food, feed, forage, fiber, and oilseed crops (USDA)."

The land recommended for farmland protection is not necessarily limited to these areas just as farming in Stanly County is not limited to prime farmland. As a matter of fact, using the scientific definition of prime farmland would limit the ability of Land Use Plan to meet the first defining principle of the plan. A significant percentage of "prime farmland" is located in or near the corporation limits or ETJs of several cities and towns in the county particularly on the north side of Locust, Millingport, New London, and Richfield. While this land may be worthy of protection and preservation, retaining this land for farming could potentially accomplish two unacceptable outcomes. First, preserving this land would draw development away from these communities where it is most desirable. Urban services such as utilities, schools, and parks could become underutilized or underfunded because natural growth areas are preserved. Secondly, preserving this land would divert development to areas of the county where it is undesirable.

3. Focus development to areas of the county where the physical conditions of the land can naturally support and are appropriate for non-agricultural land uses.

Generally natural land conditions in Stanly County do not present a serious limitation to development activity from excessively steep terrain, wetlands, floodplains, or other natural constraints as in other parts of North Carolina. From a development perspective this makes Stanly County an attractive place to build homes, neighborhoods, and communities.

The rolling topography of the county is advantageous to development since existing grades naturally encourage good drainage and provide for scenic views and vistas. This in turn limits the amount of wetland regulated by the Federal government. Those that do exist are fairly limited to small-scale land areas that do not constraint development activity on a wholesale basis. As indicated in Section 4 of this report, floodplains in the county are limited to the valleys of the Yadkin-Pee Dee River and Rocky River as well as their tributaries. As the topography of the county is rolling to steep in nature, there are not the wide floodplains typically associated with

portions of North Carolina to the east. As certain areas of the county experience more intensive development activity, areas subject to flooding may expand.

4. Protect Stanly County's unique natural and cultural resources.

In addition to the county's inventory of farmlands, Stanly County is home to several natural and cultural resources that present unique county, state, and national preservation opportunities. Among these resources is the Uhwarrie Mountains of eastern Stanly County, and in particular Morrow Mountain State Park. While the state park has been protected since its creation in the 1930s, the vicinity of the park also needs protection to not only enhance the experience of visiting the park, but also to preserve potential natural habitats from permanent destruction. Some of these habitats are documented, however a comprehensive countywide natural resources inventory will need to be completed in the future to identify lands of Botanical Significance and worthy of protection.

Historic and cultural resources in the county also need to be protected in conjunction with the Land Use Plan. Resources such as the land associated with the Battle of Colson's Ordinary, pre-historic settlements associated with the Badin, Mountain, Pee Dee, and Stanly people, as well as other historic and cultural resources.

5. Use long-range planning for public infrastructure investments—public utilities, road infrastructure, and emergency/safety service—as an opportunity for community building in the county.

Along with zoning and land use planning, community decision-making on road, utility, and community facility infrastructure investment plays the most significant role in defining where and when development will occur within a given area. This is one of the strongest tools counties and cities collectively have in promoting or discouraging development in one area of the jurisdiction, and/or discouraging it in another. While this principle is a corollary to a previous Land Use Plan principle, this principle proposes that community investment in roads, public utilities, schools, parks and recreation, and emergency services focus on using these investments to building communities in Stanly County.

As for roads, Stanly County needs a road system that supports the objectives of the Land Use Plan as well as improving access to outlying areas of the central North Carolina region. Several major road improvement projects are planned or programmed that will improve linkages to the region in virtually all directions on the compass. Among the most important is the widening of NC 24/27, a project that will more closely link Stanly County to the eastern portion of the Charlotte metropolitan region. Improvements to NC 49, U.S. 52, and NC 24/27/73 east of Albemarle.

Another potential roadway project, the widening of NC 73 west of Albemarle to four lanes has not been formally included in the NCDOT project list. This project needs to be seriously considered in light of the fact that NC 73 crosses through the heart of the Millingport "rolling Kansas" farmlands of west-central Stanly County. This roadway project will greatly improve access from Stanly County to Interstate 85 in Concord.

Schools play an important role in the lives of Stanly County families each and every day. Present enrollment in the county school systems is 10,150 student. Trends for building permit activity indicate that 573.5 new housing permits are issued in Stanly County annually. If this rate continues, Stanly County will be looking for the need to construct several new schools over the 20-year planning period. While this phenomenon may present serious issues for the Stanly County School System in terms of construction and operation costs, this also offers the opportunity to use new school construction as a centerpiece for new community development according to the Land Use Plan objectives.

6. Encourage land use patterns that provide a compact mix of land uses at a higher intensity of development.

The first five Land Use Plan principles provided general recommendations for development patterns in Stanly County. This principle addresses the character of development within those areas of Stanly County where development is desired. For these areas a pattern that encourages a mixed-use land use strategy is encouraged. In the last 50 years, communities have developed in a homogeneous pattern of residential neighborhoods physically separated from commercial districts, industrial areas, and other land uses. It should be pointed out that this pattern is a fairly recent phenomenon that bears little resemblance to the traditional manner in which Stanly County developed.

Visit any city or town in Stanly County and central North Carolina and the traditional pattern is visible, be it a larger community such as Albemarle, or a smaller town such as Norwood. Residential neighborhoods are located in close proximity of older commercial areas. Schools are truly neighborhood entities and are the focus of the community.

Using this type of development pattern is beneficial for a number of reasons. First, mixed-use development activity encourages pedestrian circulation for routine daily activities. While the vehicle will never be replaced as the primary choice for mobility in the county, promoting mixed uses could conceivably reduce vehicle trips associated with the school-age population, to parks and recreation facilities, daily retail shopping needs, and services.

Second, a mixed-use development pattern can influence the long-range potential for transit services in the county. Generally transit systems do not flourish where development is sprawled over long distances. More compact development increases the potential for better serving the transportation needs of citizens as they go to work.

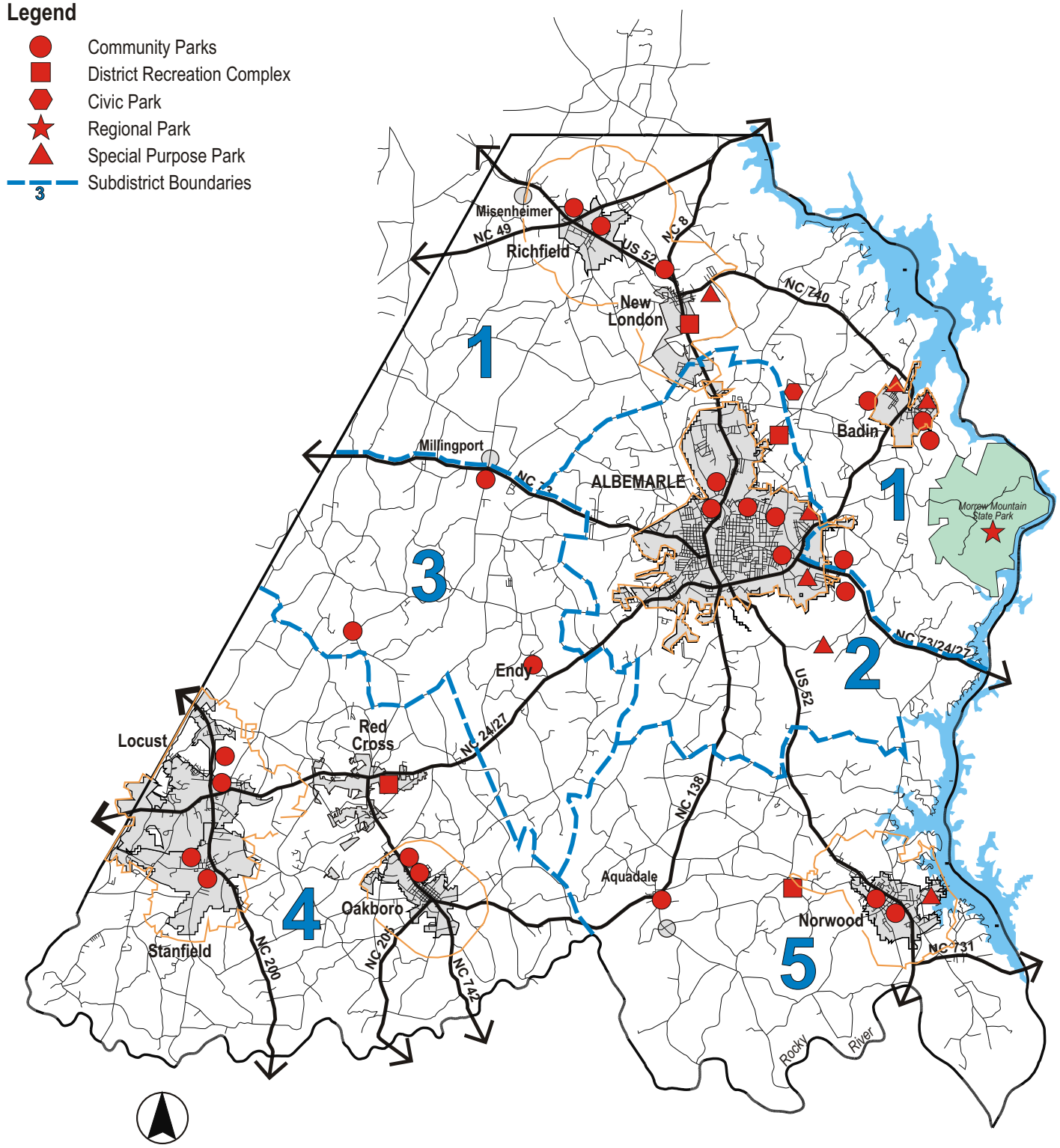
7. The provision of parks, recreation, and open space needs to be an element of future land use planning in Stanly County.

In a similar vein to those community services identified in a previous Land Use Plan principle, parks and recreation facilities can play a role in defining the future of the county. Presently most parks and recreation facilities are focused on the city of Albemarle.

A needs assessment contained in a countywide Comprehensive Recreation Master Plan completed in 1999 indicated that substantial investment is needed to meet projected population increases in the county over the next 20 years. The needs assessment identifies priorities for parks and recreation development for community parks, recreational complexes, and special purpose facilities for park and recreation subdistricts within the county. One interesting pattern identified in the Comprehensive Recreation Master Plan is that most new facilities will be constructed in or near existing population centers. Other facilities will be sited at existing school facilities including major recreation centers located at high schools within the county. In this manner the Comprehensive Recreation Master Plan recommendations support the principles of the Land Use Plan. Figure 6-2 illustrates the recommendations of the Comprehensive Recreation Master Plan.

In addition to the recommendations of the Comprehensive Recreation Master Plan, the Land Use Plan recommends a series of park and recreation facilities will also be needed to meet the needs of a growing Stanly County population. One recommendation is to provide public access to the growing Tillery Reservoir area in southeastern Stanly County. Another recreation opportunity that needs to be examined in Stanly County is the provision of greenways. Greenways are multi-purpose parklands that serve the following purposes:

- They can help conserve and protect natural environments from intensive development activity,



SOURCE: LS3P Accociates Ltd.

Figure 6-2

Comprehensive Recreation Master Plan

Land Use Plan

Stanly County, North Carolina

WOOLPERT

- They can provide recreational opportunities such as trails for bicycling or walking, canoeing, nature viewing, or horseback riding,
- They can provide a linkage between parks, natural areas, schools, residential neighborhoods, and shopping area, and
- They can help educate people as living classrooms in the community.

8. Use the Land Use Plan recommendations to promote the economic development of Stanly County through a balance of traditional economic development practices, and the recommendations of the North Carolina Central Park Plan concept.

Economic development practices in Stanly County were discussed extensively through this point in the course of the development of the Land Use Plan. Regardless of the approach, the long-range economic health and stability of Stanly County is a central purpose of the Land Use Plan. Because of this, the Land Use Plan seeks a balance between ongoing efforts to promote economic development in the county alongside the eco- and enviro-tourism initiatives included in the Central Park Plan.

First our attention will turn toward the traditional model of economic development. Simply stated, the recommendations of the Land Use Plan do not conflict with this model. Growth of all kinds—residential, commercial, and industrial—is encouraged in all cities in Stanly County. Ample land has been identified for growth in these areas in both the short-range (ten-year growth area) and long-range (20-year growth area). These areas represent the areas that are the most advantageous to industrial development due to transportation infrastructure, utility capacity, and a nearby workforce.

One exception to this principal is the promotion of economic development opportunities in the vicinity of Albemarle-Stanly County Airport. This facility, which lies outside the 10- and 20-year growth areas for Albemarle and Badin, has the potential to play a major role as an economic development engine for the county. From a land use perspective, industrial development is compatible with the operation of the airport and it's long-range plans.

The goal of the Central Park Plan concept is to provide a sustainable local economy for the seven-county Yadkin-Pee Dee Lakes Project Region. In addition to Stanly County, the Region includes Anson, Davidson, Montgomery, Randolph, Richmond, and Rowan Counties. The mission of the Yadkin-Pee Dee Lakes Project, which is based on Badin, is "to promote and support efforts that balance economic development and environmental management in the Uwharrie Lakes Region (Yadkin-Pee Dee Lakes Project)."

The Central Park Plan identifies many priorities to guide both local and regional decision-making to promote the concept. Many of these priorities, if not all, parallel those of the Stanly County Land Use Plan. They include the following:

- Create communities rather than 'developments,'
- Ensure the economic vitality of existing small communities before allowing stand alone or strip commercial or residential development,
- Set aside monies for public open space, and
- Support master planning and creation of definitive town images and boundaries (Yadkin-Pee Dee Lakes Project).

9. Cooperation between the county, communities, and other entities offers the best solution to future land use planning in Stanly County.

Stanly County, as mentioned throughout the Land Use Plan process, is not alone among North Carolina counties in feeling the pressure of growth and development seemingly beyond their control. What could make Stanly County unique is the manner in which future county development is tied to the needs and desires of its member communities.

Simply stated, the objectives of the Land Use Plan cannot be met without the involvement and cooperation of all the political jurisdictions represented in the county. For example, preserving farmland will not be possible without the cooperation of Stanly County's cities and towns in avoiding expansion of utilities and other urban services through the farm country. Conversely, to achieve the same goal, Stanly County will need to remain firm on accepting only compatible development in the farmland preservation area. Other institutions such as those that are responsible for road and school construction, as well as park and recreation development will also need to continue to be engaged in the long-range land use planning process.

To a large extend this process of constructive dialog on the future of Stanly County is already in place. As part of the process to develop these draft recommendations the cities of Stanly County were all invited to provide an estimation of where they would see themselves 10 and 20 years down the road. Representatives from nearly all the city have participated in the public involvement process through this point in the planning process. These developments are extremely positive in fostering a long-lasting and constructive relationship for the future of Stanly County.

Land Use Categories

The categories used for the Land Use Plan for Stanly County (see Figure 6-1) are described below. As indicated in Table 6-2, the land use categories proposed for the Land Use Plan present general land use recommendations for different areas of the study area. Specific land uses are not indicated for each of these categories (see Table 6-2). The purpose of these general recommendations is to identify areas of Stanly County where development is and is not encouraged over the next 20 years

Primary Growth Areas

The primary growth areas identified on Figure 6-1 represents those areas of Stanly County where growth and development is encouraged over the next 10 years. Primary growth areas are identified for each of the eight cities located within Stanly County and surrounding some unincorporated towns.

Within the primary growth area, development densities are encouraged from a minimum density of four dwelling units per acre. For those portions of the primary growth area located nearer the city center, higher development densities are to be expected and encouraged.

Each primary growth area will include land uses in addition to residential development. Commercial development is encouraged as is industrial development. New community facilities such as schools, libraries, and post offices are also encourage as are churches, neighborhood and community parks, and other activities that support safe and pleasant residential neighborhoods. Traditional Neighborhood Design (TND) is encouraged as a solution to promote good community design for developments at the density of four dwelling unit per acre or higher. Although the principles and philosophy behind TND are discussed later in the report, TND promotes a mix of land uses that in turn encourages walkability. TND is compatible with the primary growth area since most existing communities in Stanly County, most of which were designed and built prior to World War II, were developed using TND principles as a fundamental matter of design. To promote use of the TND development model, density bonuses should be

Table 6-2. Summary of Generalized Land Use Categories.

Generalized Land Use Category	Characteristics
Primary Growth Area	• Includes existing municipal boundaries, ETJs, and development area outside of these areas. • Growth encouraged in 10-year period after adoption of plan. • Majority of future growth in county encouraged for this area. • Highest residential development density recommended for the county: overall rate of four dwelling units per acre or higher. • Mixed land use pattern encouraged. • Traditional neighborhood design (TND) recommended, particularly adjacent to existing cities and in close proximity to smaller towns and crossroads settlements. • Full array of urban services provided to residents with the potential for expansion. • Schools, libraries, post offices, and other community facilities serve as the focus of the towns, or for residential neighborhoods in larger cities.
Secondary Growth Area	• Growth appropriate only after 75 percent of primary growth area is developed for each individual city or town. • Generally development activity lies outside present ETJs. • Low density-residential development encouraged at rate of two to four dwelling units per acre. • Mixed-use development pattern encouraged, however at a lower intensity. • Urban services are generally provided, but their distribution may not be universal. • Conservation development model encouraged to protect sensitive natural areas and historic/cultural resources at periphery of these areas.
Conservation Area	• Includes majority of study area. • Farmland protection highest priority for this area. • Low-density residential development encouraged at rate of one dwelling unit per acre. • Non-agricultural/residential development activity discouraged. • Utility infrastructure and other urban services discouraged. • Conservation development model encouraged in limited instances. • Transfer of development rights and purchase of development rights available as resources to protect farmland in the agricultural conservation area.
Special Protection Areas	Albemarle-Stanly County Airport: • Encourage industrial and other development compatible with long-range development of airport complex. • Investigate expanding jurisdiction of the Airport Overlay District within the Stanly County Zoning Ordinance to exclude potentially incompatible land uses.
	Morrow Mountain State Park: • Protect vistas and viewsheds associated with the immediate vicinity of the state park. • Investigate development of overlay district similar to H-O, Highway Overlay District for inclusion in Stanly County Zoning Ordinance.
	Rocky River Greenway: • Protect Rocky River as regional multi-purpose greenway opportunity linked to Charlotte/Mecklenburg County as well as Union and Cabarrus Counties. • Provides linkage between southern Stanly County cities and towns.
Source: Woolpert LLP, 2002.	

considered, particularly when a given development includes a healthy mix of land uses and/or includes community facilities such as a school.

Most of the primary growth areas for the nine cities was drawn in cooperation with representatives from the cities. As a result, the size of the primary growth areas reflect the specific wishes and needs of each community as well as the realities of growth and development patterns some of these communities are already experiencing. Although there are some exceptions, the position of the boundaries of the primary growth areas corresponds well to the existing ETJs exercised by six of the nine incorporated cities. Albemarle and Badin do not presently exercise an ETJs. The long-range recommendations were completed before the incorporation of the Town of Red Cross.

In addition to encouraging growth around the nine incorporated cities, primary growth areas are also proposed for the following unincorporated towns and crossroad settlements:

- Aquadale
- Endy
- Finger
- Frog Pond
- Millingport
- Misenheimer
- Plyler
- St. Martin

While the size of the primary growth areas for these towns is considerably smaller than those of the incorporated cities, placing primary growth areas in these areas encourages the moderate continuation of existing development patterns already found in these places. Also, encouraging development in these towns and crossroad settlements, all of which are located major roadway corridors in the county (i.e., NC 24/27, NC 73, NC 49, US 52, St. Martin Road) allows for rural commercial development at strategic places along these important transportation roads.

It should be noted here that a portion of the primary growth areas lies within the ETJs. For example, most of the primary growth area surrounding Norwood, Oakboro, and Richfield are well within their respective ETJs. As such these areas are theoretically outside the Land Use Plan study area and the jurisdiction of County Planning Commission and Board of County Commissioners.

Secondary Growth Area

The secondary growth area includes land expected to be consumed by development in the period beginning 10 years after the adoption of the Stanly County Land Use Plan. Development within the secondary growth area, while encouraged in the long-range, is discouraged in the zero to 10-year period. Once development saturates 75 percent of the land area of the primary growth area for a specific city or town, as-of-right development in the secondary growth area may proceed.

While similar to the primary growth area in terms of land use, development densities recommended for this portion of the study area are lower than those of the primary growth area. Residential development densities recommended for the secondary growth area ranges from two to four dwelling units per acre. In some portions of the secondary growth area densities may be even lower. This is consistent with the fact that a portion of the secondary growth area may not be served by utilities. Further, the secondary growth area, because it is situated farther from the center of each respective community, will not be supported by the same level of community services as the primary growth area and existing incorporated areas.

The conservation development model is encouraged to be used in the secondary growth area. This recognizes that a portion of the secondary growth area may be located in areas of the county where existing natural resources, farms, or other resources are worthy of preservation. To encourage use of the conservation development model, density bonuses should be investigated.

Secondary growth areas are also identified for the eight towns and crossroad settlements discussed above in the primary growth area section.

As with the portions of the primary growth areas, a percentage of the secondary growth area lies within the ETJs of a number of cities. This situation is most dramatically displayed in New London and Oakboro.

Conservation Area

The conservation area includes the majority of the study area. The chief purpose of the conservation area is to protect farmland from rural sprawl today, and from urban sprawl in the future. The conservation area is also intended to protect woodland areas as well as open space in this portion of the study area. As it is expected that development pressure will extended into Stanly County from Cabarrus, Mecklenburg, and Union Counties, it is anticipated that urban sprawl will begin to be experienced in the vicinity of Finger, Millingport, and Ridgecrest at the end of the 20-year planning period.

Low-density residential development will be permitted in the conservation area. The present permitted development density of the R-A, Residential-Agricultural Zoning District, a zoning district that encompasses the majority of the study area, allows single-family residential development at the rate of one dwelling unit per acre.

A development density of one dwelling unit per acre is encouraged for this area. To allow for flexibility in applying this density recommendation, the one-acre development density shall be expressed as an average development density over a single property. In this way, lot sizes will not be required to be a minimum of one acre in size. For example, from an existing 20-acre "parent" lot, a total of 20 lots of varying size may be created. These lots may be less than one acre in size, or at least the minimum necessary to allow for the safe operation of a well, septic system, and back-up septic system on the lot as determined by standards established by the Stanly County Environmental Health Department.

This will allow farmers to continue to operate their farm and sell portions of their property to their children or for income.

In addition to this flexible one-acre zoning requirement, it is encouraged that farm protection and preservation programs be encouraged to sustain the rural way of life in Stanly County. Examples programs include purchase of development rights, transfer of development rights, and conservation easements. Conservation development may be an appropriate model for application in the agricultural conservation area when land is located in close proximity to a the secondary growth area, such as near a unincorporated town or crossroad settlement. Explanations of each of these implementation strategies and tools is provided later in this report.

Figure 6-3 provides an illustration of the manner in which the flexible development density system proposed in the conservation area.

Special Protection Areas

The final generalized land use category illustrated in Figure 6-1 is a series of special protection areas intended to protect unique assets found in Stanly County. Three such areas are identified on the Land Use Plan map:

Albemarle-Stanly County Airport Protection Area—Land in the vicinity of Albemarle-Stanly County Airport is rapidly developing, particularly on the southwest side of the airport near Albemarle. Only a small portion of the secondary growth areas for Badin encroaches onto airport land. It is recommended that land associated with the airport approaches be protected to preserve the long-range sustainability of the airport. In addition to serving the

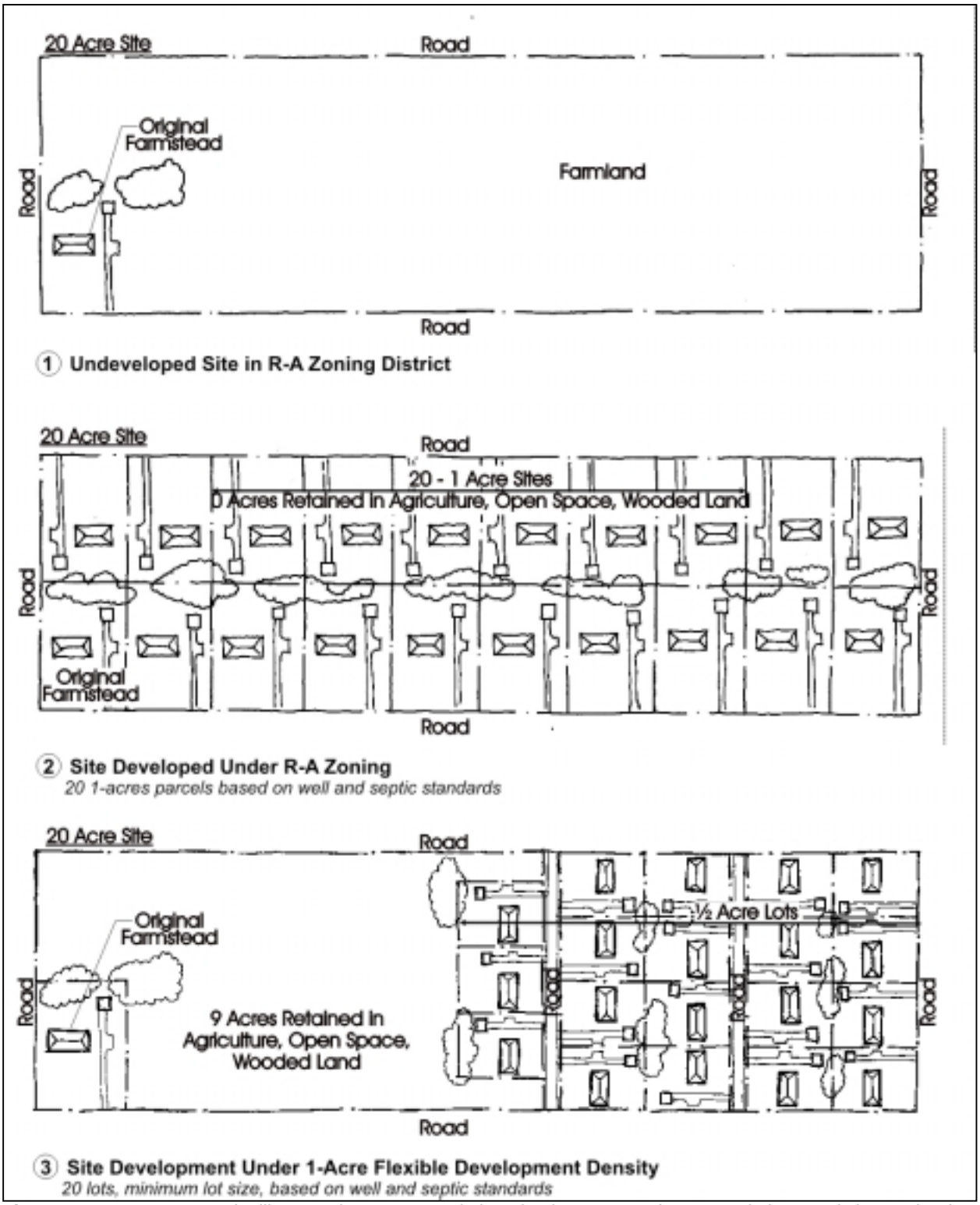


Figure 6-3 *Images 1, 2, and 3 illustrate the recommendations for the conservation area relative to existing zoning for a typical 20-acre lot. In the top illustration, a 20-acre lot is used for farmland along with the original farmstead. The lot possesses frontages on all sides. The middle image illustrates the development of the same 20-acre lot under the R-A, Residential-Agriculture Zoning. Each lot meets the minimum lot size of approximately one dwelling unit per acre, and no farmland is protected. The bottom image illustrates the same development using a one-acre flexible development density. Twenty lots are created from the original lot, with the minimum lot size determined by the minimum land area necessary to accommodate a well, septic system, and back-up system. Minimum lot sizes may be less than the one acre indicated. Under this scenario nine acres of farmland are protected.*

Source: Woolpert LLP, 2002.

needs of the airport, this area is also an ideal location for industrial development within the study area.

Presently an overlay zoning district protects the airport from tall structures. It is recommended that the existing overlay zoning district be expanded to provide further protection to the airport by encouraging compatible land uses (such as industrial development) while discouraging others.

- **Morrow Mountain State Park Protection Area—**Morrow Mountain State Park remains one of the most important assets in Stanly County since its creation in 1935. The Morrow Mountain State Park Protection Area is recommended to protect and enhance this valuable resource from incompatible development at the park boundary. Views and vistas to and from the park should be protected, as should the Valley Drive State Scenic Byway that passes on the west side of the state park. Ridgelines in the area should be protected. The existing H-0, Highway Overlay District that protects important roadway corridors in the county could be used as the model for protecting this valuable resources.

- **Rocky River Greenway Protection Area—**The Rocky River presents a unique opportunity to link southern Stanly County with a regional greenway to Cabarrus, Mecklenburg, and Union Counties and the Charlotte metropolitan area. A multi-purpose greenway is recommended for this corridor, a greenway that ultimate would link to the Yadkin-Pee Dee River at Norwood.

  The greenway proposed for the Rocky River Protection Area—as discussed in Land Use Plan principle #7 above—can serve a multitude of functions and take on a multitude of roles for the county. Those functions and roles can define the manner in which the greenway develops, be it as an natural conservation area to protect the Rocky River and its sensitive habitats, or to serve as a linear park with trails and infrastructure supporting walking, biking, canoeing, and other activities.

  Regardless, the concept of developing a greenway along the Rocky River was presented by county residents throughout the Public Input Meeting process as a way of preserving this important corridor. The greenway concept is a natural outgrowth of the work of Frederic Law Olmsted and his “emerald necklace” regional linear park systems in Boston, Massachusetts, and Cleveland, Ohio a century ago. Greenways systems have blossomed throughout the county in the last quarter century. Many of the more successful systems can be found in North Carolina, such as in Raleigh.

  The greenway could also serve as a means to link existing or future recreational areas in southern Stanly County. The greenway will pass in close proximity to cities such as Norwood, Oakboro, Stanfield, and Locust, as well as the town of Aquadale. The greenway could provide a backbone to link all these communities. On a grander scale, the greenway could tie into regional parks and recreation facilities in the Charlotte region.

Growth Management and Implementation Strategies and Tools

The Land Use Plan and its supporting principles refer to several growth management and implementation strategies and tools that are available to Stanly County as a resource for realizing the plan goals and objectives. These strategies include the following:

- Agricultural districts,
- Conservation development,
- Conservation easements,
- Transfer of development rights,
- Purchase of development rights,
- Traditional neighborhood design,
- Cost of community services,

- Impact fees, and
- Adequate public facilities ordinance.

A description of each of these strategies is described below.

Agricultural Districts

Agricultural districts are voluntary measures that allow farmers and property owners to protect themselves from nuisance complaints and lawsuits associated with the normal operation of the farm. This “right to farm” measure allows farmers who agree to enter into a 10-year agricultural conservation easement between the owner and the county so that non-farming activities are prohibited for that period. The creation of not more than three lots that meet the planning and zoning laws of the county are permitted under this measure. Only land that is best suited for farming (soil conditions, climate, growing season), and actively managed under Soil Conservation Service erosion practices for highly erodable land may be entered into this program. The property owner may revoke the agricultural conservation easement at any time.

The Stanly County Farm Preservation Committee has recently presented a recommendation to employ the agricultural district in Stanly County to the Stanly County Planning Commission.

Conservation Development

Conservation development is a tool and a design process that helps to preserve significant natural features of a particular site where growth is expected. In this way it is not necessarily compatible with farmland protection, but more a resource protection mechanism for individual sites.

By focusing development within the site in areas where there are minimal natural features, other more significant natural features can be retained. As a result, homes are clustered together in certain areas which leaves open spaces on the rest of the site. This process allows the existing underlying densities of the site to be developed, but preserves valuable natural features. Minimum open space requirements for conservation developments can range up to 60 percent or higher based on the gross land area of a site. This compares to 20 or 25 percent minimums for conventional residential subdivisions.

The conservation development model was conceived by planners and designers in the Connecticut River Valley of western Massachusetts in the late 1980s. Its proponents noted that large percentages of homebuyers in golf course communities, upwards of 30 percent of the gross land area, did not necessarily golf, but purchased their home to enjoy the associated open space of the golf course. Its most famous practitioner is Randall Arendt of the Natural Lands Trust, although a similar program called “The Countryside Program” has been operating successfully in Northeastern Ohio since the mid-1990s.

How It Works

To encourage conservation development, zoning codes must provide the conservation development model as an option to developers and property owners. Typically conservation development is encouraged using a basic Planned Unit Development (PUD) ordinance as a foundation.

After an ordinance is adopted outlining the principles, the design process begins. The design process involves four major steps:

1. Identify the land that should be permanently protected based on a specific site analysis and also the communities' values. The precise location of features to be preserved such as wetlands, floodplains, steep slopes, woodlands, stream corridors, farmland, scenic views, etc. should be noted. The balance of the site becomes "potential development areas."

2. Identify the specific location for housing sites, within the potential development areas, so as to maximize their view of open spaces and natural features.

3. Layout the streets and informal pedestrian trails that access the developed areas.

4. Record permanent conservation easements on the open space lands' title documents (Rural by Design).

Strengths

The following strengths have been associated with the conservation development model:

- Preserves a high percentage of natural features (e.g., woodlands, steep slopes, viewsheds, streams and rivers) and open spaces for the community as valuable features are identified and accommodated within the design process.

- Market based pricing for homesites as there is no government regulation of the prices.

- The existing underlying / full densities is retained on the site. The density is clustered within smaller areas of the site rather than spread out throughout the entire site.

- Is an efficient use of suitable lands for development as septic fields are located in areas with well drained soils rather than spread the drain fields throughout the site including in areas with poorly drained soils.

- The design parameters are voluntary, or if the community desires, could become mandatory under certain criteria such as sites that are larger than a certain size.

- No public expenditures are needed to preserve lands as developer and homebuyers create the open spaces by buying homes that are clustered together.

- The program is simple to implement because only one landowner/developer is needed per site.

- The design principles reduce development costs by concentrating development on the site and minimizing road and infrastructure costs.

- Reduces possible government review costs by not necessarily crossing wetlands etc. and as a result eliminating the need for government review of wetlands crossing/mitigation.

- Site plan review time is not any more stringent of a process than what currently exists for subdivision development.

Weaknesses

The following weaknesses have been identified for the conservation development/design model:

- Not necessarily the appropriate model to protect farmland except on a site-by-site basis.

- Could potentially introduce nuisance complaints from homeowners where it is used alongside agricultural areas.

- Although popular in the northeast, it is a relatively new model and generally unfamiliar to developers/landowners, and financial institutions.

- Is dependent on strict enforcement of planning and development objectives.

Figures 6-4 through 6-6 provide an illustration of the conservation development model.

Conservation Easements

A conservation easement is a legal agreement or instrument in which the landowner retains ownership of private property but conveys certain specified rights in the land (e.g. restriction on future use of the land) to a land conservation organization or a public body. Typically these rights are transferred to a not-for-profit land trust.

How It Works

The transferred interest in the land can be in the form of a restriction, easement, restrictive covenant or condition and is outlined in a deed, will, or other legal instrument. The landowner initiates any documents that are prepared. By preparing and recording a conservation easement, lands can be preserved by the existing landowners while the development rights are restricted.

Strengths

The following strengths have been associated with the conservation easement:

- Conservation easements are a voluntary program to preserve open space lands as landowners can choose whether or not to participate.

- Market based values are utilized for compensation of landowners in exchange for placement of a conservation easement.

- Does not require any public expenditures for implementation as private citizens and land trusts or other entities may purchase the easements.

Weaknesses

Weaknesses associated with conservation easement programs include the following:

- Landowners may not want to participate in the program.

- Easement terms could include a time limit such as 99 years rather than in perpetuity. This could lead to expiration of easements and the land possibly returning as a possible development site unless a perpetual easement is arranged.

Transfer of Development Rights

The Transfer of Development Rights (TDRs) is a tool to focus growth in certain geographic areas of a city, county, or region while at the same time, preserving other geographic areas that are deemed valuable to preserve as natural, scenic or rural farmlands. As one of several rights that are tied to land, development rights can be separated from a parcel and transferred or shifted to other sites. The overall amount of development is not restricted but it is shifted to other areas, so there is no gross increase in development densities for the city, county, or region.

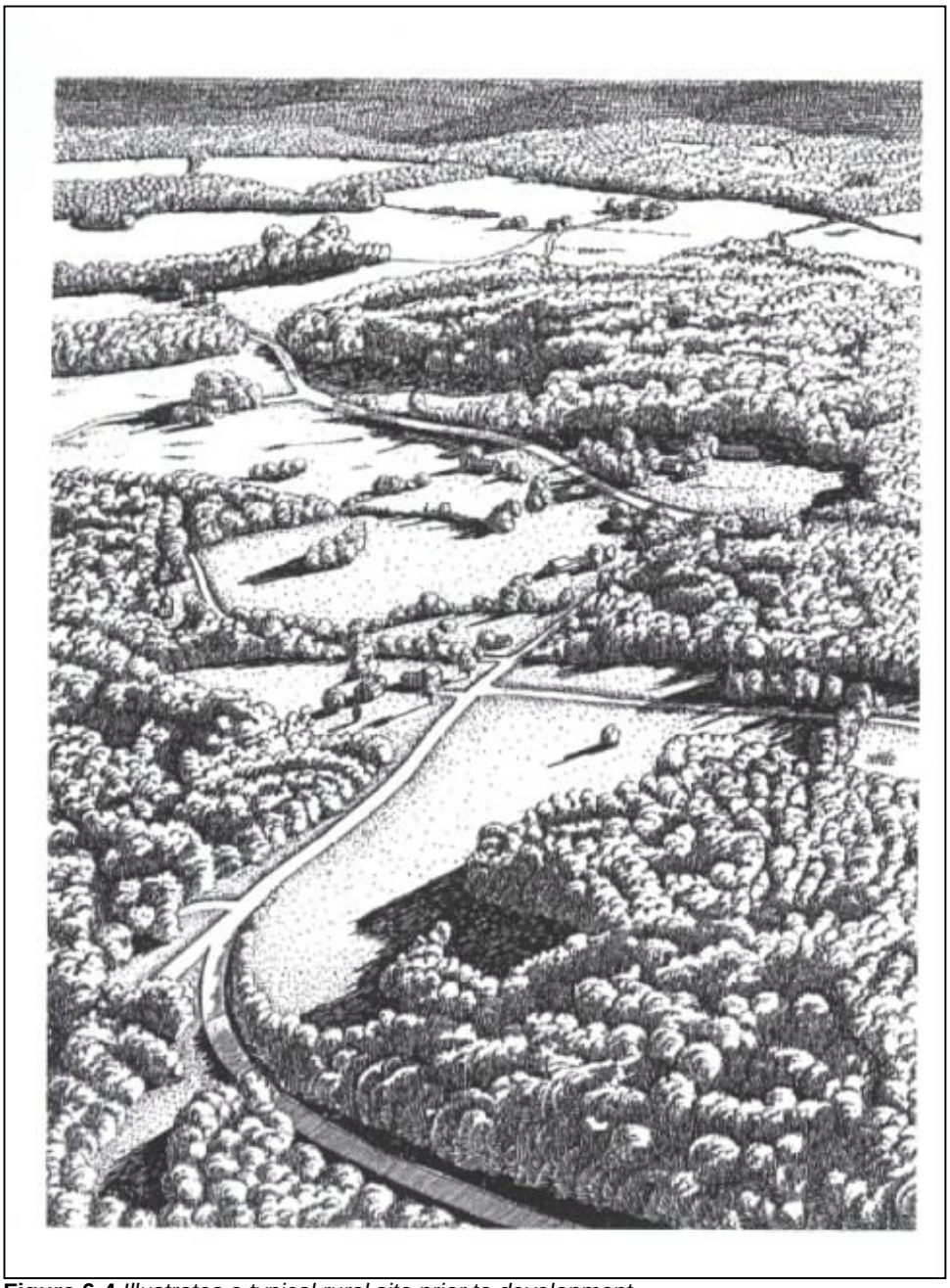


Figure 6-4 *Illustrates a typical rural site prior to development.*

Source: Charter of the New Urbanism.

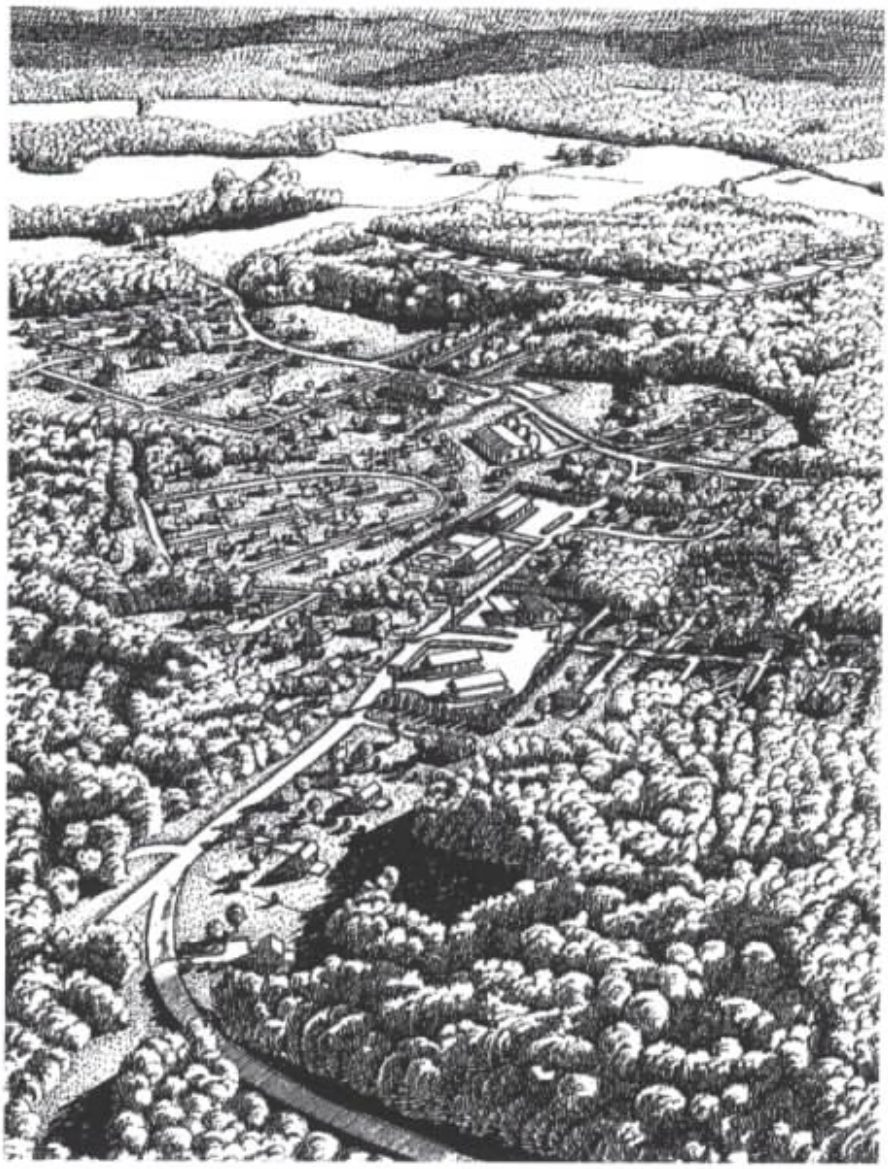


Figure 6-5 *Using conventional development, open space, forested lands, and other features are conserved without general regard for the natural lay of the land.*

Source: Charter of the New Urbanism.

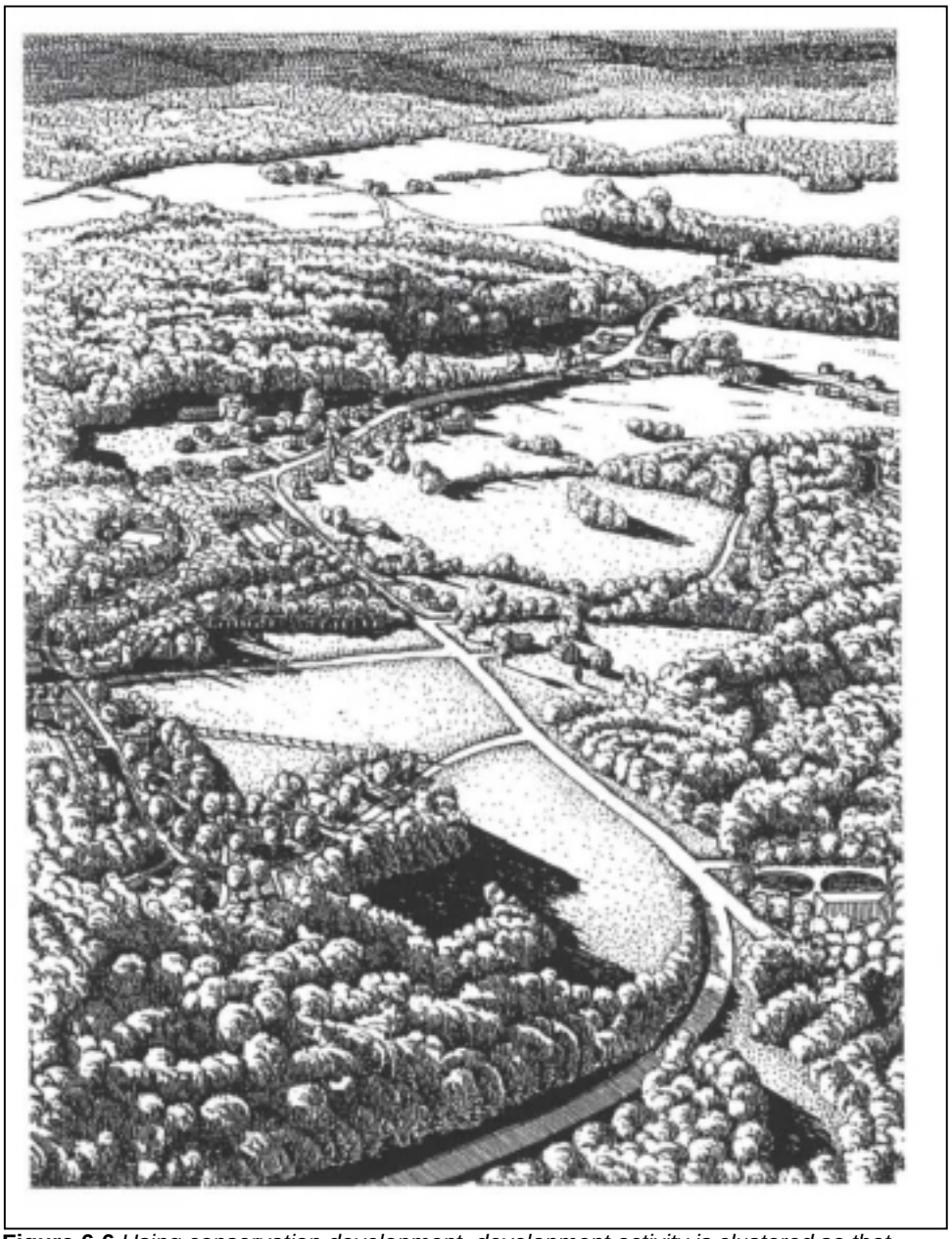


Figure 6-6 *Using conservation development, development activity is clustered so that valuable resources—forests, pastures, etc.—can be preserved.*

Source: Charter of the New Urbanism.

TDRs are similar in concept to cluster site development: where homes are concentrated in one area and natural features are preserved, although the TDR model works at a much larger scale.

How It Works

Through a community planning process, areas are identified for perpetual preservation as natural or rural lands, (these are referred to as “sending areas”), and other areas are identified for development at densities greater than the current zonings allows, (these are referred to as “receiving areas.” In the sending area, restrictions are placed on what the landowners can develop; however, these landowners are assigned transferable development rights which they may sell.

When the development rights are sold, the land in the sending area becomes restricted through a permanent conservation easement recorded with the parcel’s title. In the receiving area, the acquired development rights permit additional density to be developed that is greater than what is permitted under the current zoning. As a result, TDRs preserve certain areas for rural and natural lands and focus the development in other areas.

Strengths

Strengths of the TDR system include the following points:

- Minimal public expenditures are needed to purchase land because the private sector predominantly implements deals to transfer development to different sites
- Market oriented, incentive driven based approach to trades/transactions because the private sector buys the development rights and landowner sells the development rights. There is not any government involvement in the transaction between a willing buyer and willing seller aside from title recording.
- The program could be a voluntary program rather than a government mandated program. Landowners and developers can choose whether or not to participate as opposed to zoning and other models.
- The program provides a foundation for efficient control of growth and the resulting infrastructure investments as resources are focused in the more intensely developed areas instead of scattered in a leapfrog pattern of rural sprawl throughout the county.
- Provides for a long-range balance between the economic development needs of the community and the need to protect land resources because both needs are met through the proactive planning process.
- If a farmer or landowner can still own the land for uses other than on-site development even though he may have sold the development rights.

Weaknesses

The following weaknesses have been identified in the implementation of the TDR system:

- TDRs are perceived as a complicated program due to the need to organize the framework for the transfer of development rights between sites within the system of title recording.
- Requires staff resources to implement, monitor and maintain, be it a public agency or other entity.

- Requires planning commitment up front to identify and justify appropriate sending and receiving areas within the county.
- Requires political commitment on the part of elected decision-makers to adopt and implement the plan and the supporting public policies.
- Can only thrive in situations were receiving areas are capable of absorbing increased development activity.
- Requires private sector support to actually utilize and implement the transfer of development rights from rural areas to areas designated to receive additional development.

Purchase of Development Rights

Purchase of Development Rights (PDRs) is a growth management tool to preserve lands that are deemed valuable to the community as rural, scenic or natural lands. As one of several rights that are tied to land, development rights can be purchased/separated from a parcel and in the case of PDRs then permanently retired. As a result, the development potential for that site is permanently eliminated and the land is preserved as rural or scenic.

How It Works

The development rights are typically purchased by a governmental entity, land conservancy, or land trust. Permanent restrictions are placed on the parcel prohibiting further development. The development rights are permanently retired.

Strengths

The following strengths are associated with the employment of PDRs:

- The ability of public entities and land preservation groups to target specific areas to preserve can be an efficient allocation of resources as the most critical lands will most likely be preserved first.
- Public money is not necessarily required because land conservancies and land trusts, which are private organizations, may employ the PDR system themselves. Public entities are not necessarily required to participate in the system.
- The program is voluntary in nature as buyers and sellers can choose whether or not to participate.
- The program does not mandate prices for development rights as market based values are utilized for the transactions.

Weaknesses

The following weaknesses have been identified with the PDR system:

- Public expenditures may be needed to execute a purchase, although public participation is not required.
- Requires public and political support to initiate and implement, if public dollars are used
- Ability to preserve land is limited by the amount of public money available, if public dollars are used.

Traditional Neighborhood Design

Traditional Neighborhood Design (TND) is a pattern of development and design that provides neighborhoods that are walkable in scale and mixed in use. This walkability is a result of an interconnected street network, streets with sidewalks and street trees, and smaller residential setbacks; while a mix of uses results from residential uses being located "above the store" on the second floor. If this model sounds familiar, it is because it is the model of design for most all cities, towns, and other population centers in Stanly County before World War II.

TND, which is also known as the new urbanism, or neo-traditional design, was popularized by Andreas Duany and Elizabeth Plater-Zyberk of the firm DPZ in Miami, Florida in the late 1980s as a reaction to the unmitigated sprawl development model practiced in the U.S. since the 1950s. TND-planned communities have been developed throughout the country including several in the Charlotte region (Vermillion in Huntersville). The plan for the city of Locust is based on TND principles.

Hamlets in Stanly County are typically focused at the intersection of two major roads and many times can be a focal point for the surrounding countryside. Additional growth of a hamlet, based on traditional neighborhood principles, can create a regional pattern of growth where pedestrian oriented development is focused around the hamlets while the surrounding farmlands or countryside is preserved as open space. In these cases the TND model can be combined with the conservation development model (discussed above) to provide a smooth transition from relatively dense hamlets to medium density residential development to open countryside.

How It Works

As part of an overall county plan that outlines the concept, future development could be concentrated near, or as part of existing hamlets, instead of sprawling out over the countryside. The appropriate implementation mechanisms would be required to be adopted such as a land use plan that outlines the traditional neighborhood planning principles, a transfer of development rights policy, an updated zoning ordinance, and building design guidelines. The combination of these elements provides the framework to guide growth in this manner.

Strengths

The following strengths are associated with the TND model:

- TND can be a part of an overall county plan to help concentrate development in the hamlets and villages while retaining open spaces in surrounding areas.
- TND is an incentive/market based system as developers and land owners sell development rights to transfer development to hamlets based on market values.
- Environmentally friendly by concentrating development in small areas and preserving other open spaces rather than spreading development out over the whole county.
- Promotes walkability and non-motorized modes of transportation as land uses are integrated on a site-specific basis.
- Is an efficient use of financial resources as road, water, and sewer infrastructure serving new development is concentrated in the villages rather than spread out in a haphazard pattern throughout the countryside.

Weaknesses

Weaknesses of the TND model include the following:

- Requires adoption of several planning and implementation policies such as a land use plan, design guidelines and transfer of development rights to properly implement the concept.
- Requires political will and private sector support to draft, adopt, and implement each policy striving towards this development pattern.
- Although used throughout the U.S., TND is still relatively unfamiliar to developers, lending institutions, and other professions and institutions associated with the land development process.

Figures 6-7 and 6-8 provide an illustration of the TND model.

Cost of Community Services

Cost of community services (COCS) is the analysis of the revenues generated and costs to a municipality, county, or other political jurisdiction associated with the provision of community services to various forms of development. Different types of development, for example, office, residential, industrial, or public uses generate differing levels of revenue (income, sales or property taxes) for the local community and each land use has different needs as far as services required (public safety, education, roads etc.) by that particular land use. This type of study outlines the differences in revenue and cost of services by land use category. COCS can be used as a means to evaluate the practicality of land use strategies such as the conversion of farmland to a residential subdivision. It can also be used as a means to justify the imposition of impact fees associated with development.

COCS was developed by the American Farmland Trust (AFT), a non-profit organization devoted to the protection of farmland resources throughout the U.S. The first COCS study was completed by AFT for Madison Township, Ohio, a township located at the eastern edge of the growing Greater Cleveland metropolitan area in the early 1990s.

How It Works

COCS as practiced by AFT involves the following steps:

1. Identifying and defining the appropriate land use categories such as residential, office, commercial, industrial, and agricultural uses.
2. Collecting relevant financial data on revenues (tax receipts, local receipts) and expenditures (public safety, health and human services, public works, education, government).
3. The results of this type of analysis generally show the following:
    - For every $1.00 of revenue generated by residential uses the cost of services is $1.10 to $1.60.
    - For every $1.00 of revenue generated by commercial uses, the cost of services is $0.20 to $0.30.
    - For every $1.00 of revenue generated by farms/forest uses the cost of services is $0.15 to $0.40.

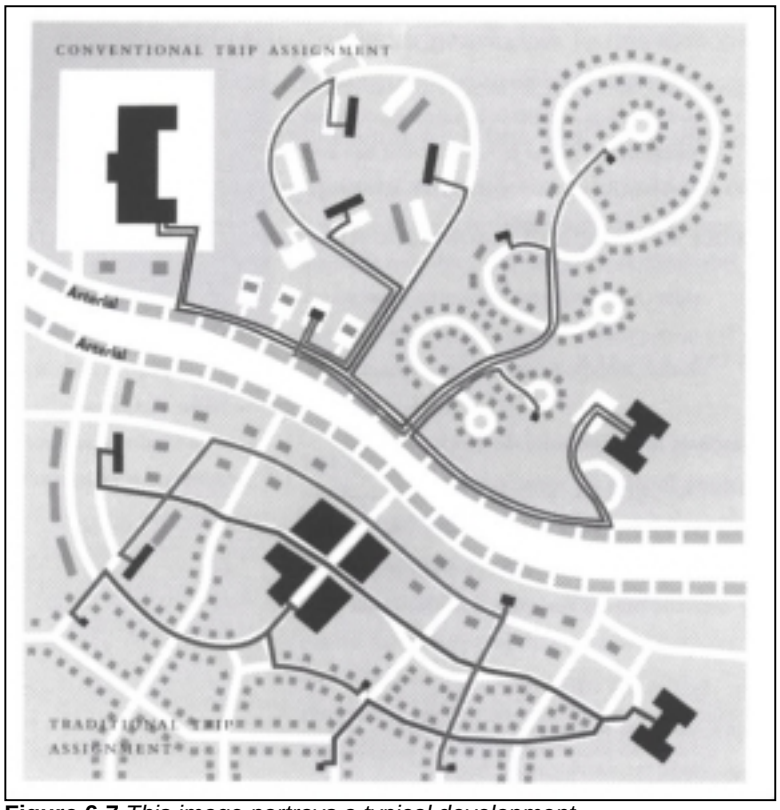


Figure 6-7 *This image portrays a typical development site using conventional development and associated travel trips based on this design. The lower image portrays a similar site's travel patterns under TND.*

Figure 6-8 *A typical neighborhood developed using TND.*

Source: Charter of the New Urbanism.

These are based on a series of COCS studies performed by the AFT and the New England Forest Consortium. Residential uses, because of their high demand on public services, generally cost municipalities more than they provide in revenues, while other land uses such as commercial and open spaces generate more revenue than they require in public services.

Strengths

The following strengths are associated with the performance of a COCS:

- This type of analysis can help prepare the community to strategically manage and or quantify growth based on the real financial costs versus real financial benefits of growth. It can be used as a preliminary step in the analysis of the feasibility of imposing impact fees to finance certain types of community services.

- This type of analysis can help a community appropriately plan infrastructure investments based on projected revenues of the individual land uses and to meet future budget requirements and

Weaknesses

The following weaknesses are associated with the COCS process:

- Strict use of a COCS may indicate that certain land uses or activities are ideal given the fiscal ramifications whether or not they are locally desirable and compatible with a plan.

- COCS is highly controversial to the development community.

Impact Fees

An impact fee is a tool to help a community provide adequate levels of infrastructure for a growing community. Monetary fees or in-kind donations are paid by a developer to the municipality, city, or authority charged with managing a public utility or service such as water distribution or sewer collection and treatment systems. The revenue is then used to pay for upgrades to infrastructure that are needed to accommodate the additional demands on roads, parks etc. generated by a new development. Impact fees can be utilized to pay for road improvements, parkland acquisition, park improvements, utility upgrades, utility line extensions, schools, and other similar services.

How It Works

Based on the specific population associated with a new development, an analysis (such as a COCS as described above) is performed of how roads, parks and schools will be impacted by the new development. The questions asked include will the increase in traffic require larger roads and additional turn lanes, is more park land need to be acquired to provide open space and recreational opportunities, and are new schools required. As these questions are answered, the costs associated with each various improvement are noted and the developer is required to compensate the community and place funds in the impact fee accounts. As more and more development occurs, and the impact fee account balance rises, then the municipality can buy land needed for the park or pay for the road widening when it is needed.

Strengths

Strengths associated with impact fees include the following:

- The private sector pays for the enhanced levels of service needed to accommodate new development rather than the public sector. Typically these charges are passed on directly to the consumer, such as a homebuyers rather than existing taxpayers.
- Infrastructure is in place or has funding when it is needed, rather than waiting years and years for funding through state grants etc.

Weaknesses

The following weaknesses are associated with impact fees:

- Impact fees should not be used to discourage development but to finance the services resulting from development activity where it is desired.
- If not properly calculated and imposed, impact fees can stifle development and negatively effect the tax base.
- Within the state of North Carolina, impact fees designed to finance schools, parks and recreation, and open space are not permitted without an act of the state legislature. Other public infrastructure may be funded by this mechanism.
- Possible haphazard location of road and other improvements unless a coordinated plan is developed in conjunction with use of impact fees.

Adequate Public Facility Ordinance

Adequate public facility ordinances provide a means in North Carolina to tie public facility funding for schools, roads, parks and recreation facilities, and open space acquisition and construction to new home construction. This bypasses the need to request an act of the General Assembly to specifically allow impact fees within Stanly County for such facilities. Adequate public facility ordinances are employed in several cities and counties in North Carolina. Neighboring Cabarrus County employs a basic form of this form of ordinance. Johnston County adopted such an ordinance to fund public facilities over a limited time frame. The Johnston County ordinance limits the number of housing permits annually within the county.

The Land Use Plan will provide more information regarding this growth management tool in an upcoming update to the plan report.

SECTION 7: PLAN IMPLEMENTATION

Introduction

The effectiveness of any plan is measured by its ability to guide and affect desired results in land use and development patterns. Issues identified during the course of the planning process to this point indicated the need for changes in the manner in which land is developed today and in the long-range. The following strategies were identified as important steps in the implementation of the Stanly County Land Use Plan:

- **Update development ordinances to reflect Land Use Plan recommendations.** Several recommendations contained in the Stanly County Land Use Plan are not presently supported by the existing development ordinances that include the Zoning Ordinance. For example, the recommendations of the agricultural protection area do not specifically correspond to any existing zoning district in the Zoning Ordinance. Implementation measures such as the use of the conservation development model also need a place in the code. Also the official zoning map, as presently drawn, will more than likely need to be revised to enforce the Land Use Plan recommendations As the Land Use Plan recommendations become finalized, specific recommendations for amendments to the Zoning Ordinance and other development control ordinances for the county will be developed in close association with the County Planning & Zoning Department.

- **Complete regular reviews and updates of the Land Use Plan.** The last countywide land use plan for Stanly County was completed in 1977. Although the Land Analysis and Development Plan was remarkably accurate in predicting the year 2000 population for the county within 11 percent of the actual figure (the 1977 plan predicted 51,600 while the actual population was 58,100), many other portions of the plan were well out-of-date by the time the present planning process was initiated. We recommend that the Stanly County Planning & Zoning Department and Planning Commission regularly monitor the progress of plan recommendation implementation process and complete an internal review and update the plan annually following the plan's adoption. In order to keep the plan current we also recommend a major revision to the plan once every five to six years.

- **Continue to develop the county GIS to track development patterns.** Stanly County government is blessed to have a well-developed and well-manned Geographical Information System (GIS) office. Already the GIS has provided the planning consultant with invaluable information associated with existing conditions needed to complete the Phase 1 report of the Land Use Plan. The GIS's greatest potential lies in its ability to track future development patterns, such as tracking housing starts and updating existing land use configurations to record changes in a more accurate manner. As much of the Land Use Plan is tied to channeling growth and development to the primary and secondary growth areas surrounding the cities and towns, the GIS will be invaluable in tracking development activity and recording the effectiveness of the county in meeting the plan goals.

- **Encourage Stanly County's cities and towns to adopt comprehensive and/or land use plans.** Three of Stanly County's nine municipalities have either completed or are in the process of preparing land use planning reports for their respective land areas. Locust completed a plan within the last three years. Oakboro just completed their plan, and Stanfield is in the process of completing a plan. We recommend that each of the cities complete an update to their present land use plan and maintain the plan in a manner similar to that described for the upkeep and maintenance of the countywide Land Use Plan.

- **Complete review of the Comprehensive Recreation Master Plan to assure compatibility with the Land Use Plan.** Although only recently completed, it is recommended that the Comprehensive Recreation Master Plan be reviewed and updated to reflect the goals and recommendations of the Stanly County Land Use Plan. This task can be completed internally without the cost of re-accomplishing the entire parks and recreation

planning process. While generally both plans are compatible, this revision will help assure the implementation of both plans.

- **Complete a natural resources inventory for Stanly County.** The Land Trust of Central North Carolina is currently encouraging each of the counties within its jurisdictions to complete a natural resources inventory. Local matching funds for the $20,000 inventory have not been secured in Stanly County. The two-year process is essential to identifying areas of local, regional, state, and national Botanical Significance so that the protection of these areas can be prioritized on the local, state, and national level.

- **Continue coordinated plan dialog between Stanly County and its cities.** Planning & Zoning Department staff along with the planning consultant have coordinated with each of the eight cities within Stanly County in the course of preparing the Land Use Plan. We firmly recommend that this dialog continue as the plan moves from adoption to implementation. We also see the Land Use Plan process as a springboard for countywide planning initiatives on other important issues and matters, such as, for example, long-range utility planning.

- **Continue cooperation among government agencies that impact long-range planning and development.** The Stanly County government has within its powers and authority the power to affect many of the changes recommended in the Land Use Plan. That power includes control over zoning for the study area as well as distributing drinking water to a number of communities in the county. Other entities, however, will need to be engaged to ensure wholesale adoption of the plan. Among these agencies include the North Carolina DOT, the city of Albemarle through its water treatment and distribution system, as well as adjacent city and counties governments.

APPENDIX A
COUNTY TIMELINE

Stanly County North Carolina Timeline

550-600 Million Years Ago:
Uwharrie Mountains, oldest mountain range in North America. First land above water after the flood, Garden of Eden.

8000 B.C.:
Early evidence of hunter gatherer tribes in Piedmont Region.

1663:
North Carolina Colony established.

1789:
North Carolina becomes 12th state.

1790:
Battle at Colson's Ordinary.
British turned back near present day Norwood.

1800s:
North Carolina is largest gold producer after Reed Mine is established in Cabarrus County.

1813:
First Randall's Church built.

1825:
Gold discovered at Barringer Mine, Misenheimer.

1826:
First post office.

1841:
Stanly County established.
Albemarle platted.

1850s:
Cottonville incorporated.

1857:
Albemarle incorporated.

1860:
County population 6,000.

1870s:
Mineral Springs resort in Misenheimer.

1880:
Stanly News & Press founded.

Stanly County North Carolina Timeline, cont.

1885:
Norwood Manufacturing Company (now C&A) formed.

1890s:
Cottonville businesses convert to steam-powered machinery.
Whitney Dam project (proceeded Badin Dam).

1891:
Southern Railroad reaches Norwood.
New London created.

1893:
County Courthouse built.

1896:
Yadkin Railroad make cotton mills in the cotton fields possible as well as aluminum production.

1897:
First telephone exchange in Albemarle.

1898:
Wiscasset, Efied Mills started.

1900:
County population 15,220.

1910:
Pfeiffer University moves to Misenheimer.

1913:
Railroad through Oakboro.
Badin founded.

1915:
Alcoa Badin Works goes on-line.
Oakboro founded.

1917:
First extension agent arrived.
Badin (Narrows) Dam built, originally the Swift Island Ferry Bridge.

1918:
First Hospital (Badin)

1919:
Road grading begun by County.

Stanly County North Carolina Timeline, cont.

1920s:
Road Construction Program leads to North Carolina to be known at the "Good Road State".
Albemarle's first water plant .
Town fire departments throughout county.

1923:
Charlotte Road paved.

1927:
Millingport School built.
Canton Baptist Church build.
Garrison Bridge completed-first bridge over Pee Dee River; Lowder Ferry closed.
County Library established.

1928:
Lake Tillery created.

1930:
Half of agriculture produced in county was cotton.
WPA/CCC projects began.
Camp Doughton created for CCC workers.
Stanfield School built.

1933:
Lake Tillery named.

1935:
Morrow Mountain State Park created.
First Stanly County Fair.

1940s:
Albemarle American legion (Post 76) wins national championship.
Farm Bureau formed.
Young Manufacturing Co..
Norwood Little League "World Series Champs".

1946:
First airport.

1947:
First radio station.
Richfield regains charter.

1950:
County population 37,130.

Stanly County North Carolina Timeline, cont.

1951:
New school districts drawn in the City of Albemarle.

1955:
Volunteer Fire Departments formed in Millingport, New London, Richfield.
Stanfield incorporated.

1958:
Norwood Stockyards built.

1960s:
School integrated.
First turkey raised in Stanly County-Tully Farm

1962:
City of Albemarle Parks & Recreation Department formed.
High School consolidated.

1963:
Water line extended on U.S. 52 North.

1964:
North Stanly High School built.

1965:
Norwood Dam automated.
Tucker Town Dam built.

1972:
Present County Courthouse built.
Stanly County Community College established.

1973:
Countywide zoning.
Historic Preservation Commission formed.
Locust incorporated.

1974:
County Arts Council.

1976:
County Museum established.
New Albemarle Wastewater Treatment Plant.

1977:
County Comprehensive Plan completed.

Stanly County North Carolina Timeline, cont.

1979:
Abemarle-Stanly County Airport dedicated.
Countywide water project.
5-lane road bypass of Albemarle.
Bank of Stanly started.
Large annexation by Albemarle.

1983:
Badin, Alcoa Badin Works, Badin (Narrows) Dam, placed on National Register.

1987:
Part-time farming exceeds full-time farming.

1988:
Agri-Civic Center built.
Albemarle Northeast Connector completed.
Stanly County Recreation Committee/Needs Assessment.

1990:
Badin incorporated.
NCANG locates at airport.

1994:
Yadkin-Pee Dee Project.

1996:
School merger (Albemarle & County).

2000:
School bond reference passes.
College bond passed for funding Western Campus.
South Stanly Middle opened.
County population 58,100.
Albemarle Correctional dedicated.

2001:
Two new schools started.
Land Use Planning Steering Committee begun.
Tourism Authority formed.

APPENDIX B
BUILD-OUT SCENARIO POPULATION CALCULATIONS

APPENDIX B: BUILD-OUT SCENARIO POPULATION CALCULATIONS

The following calculations were used to determine the build-out population for Stanly County. The build-out population represents the potential population that could inhabit Stanly County if all land not presently used for residential, commercial, industrial, parks, or public/semi-public uses (i.e., agricultural and wooded areas) were developed as residential areas.

Steps used in the process to define this calculation include the following:

1. Table B-1 identifies developable land within the study area for the Land Use Plan. This area does not include undeveloped land within municipal corporation lines or ETJs. This information is based on an existing land use inventory and analysis completed by Woolpert LLP in conjunction with Existing Conditions Analysis of the Land Use Plan (Phase 1 Report).

Table B-1. Agricultural and Wooded Areas in Stanly County, 2000.

Land Use Category	Acres
Agriculture	63,542
Wooded Areas	89,048
Total Agriculture and Wooded Areas	**152,590**
Sources: Stanly County GIS Aerial Photography, April 2000. Analysis by Woolpert LLP, 2001.	

2. Table B-2 identifies acreage totals for land that would be developed for non-residential purposes. Generally these land uses support residential development patterns and include set-asides for transportation and utility rights-of-way and easements, as well as retail commercial, office, public (parks and schools), and semi-public (e.g., churches) uses.

Table B-2. Provisions for Non-Residential Development.

Land Use Category	Acres
Total Agriculture and Wooded Areas	**152,590**
▪ Less land area for rights-of-way and public easements. *Based on assumption that 15 percent of all land will be used for rights-of-ways and utility easements.*	-22,889
▪ Less land area for retail/commercial, industrial, community facilities and other non-residential development. *Based on assumption that 5 percent of all land area will be used for these land uses.*	-7,630
▪ Less set-aside for parks and recreational facilities. *Based on National Parks and Recreation Association (NRPA) standard of 10 acres of park for every 1,000 person, or 0.0253 acres per household, assuming 2.53 persons per household based on 2000 U.S. Census figures for Stanly County. Assumes development density in R-A, Residential-Agricultural Zoning District, of one dwelling unit/acre, or 0.0253 acres of parkland for each acre of residentially-developed land.*	-3,861
Total Remaining Residential Development Yield	**118,210**
Sources: Stanly County GIS Aerial Photography, April 2000. Analysis by Woolpert LLP, 2001.	

3. Table B-3 provides an estimate of build-out for Stanly County based on existing zoning, prevailing household sizes for the county based on recent Census figures, and estimated population growth figures since the completion of the Census in April 2000.

Table B-3. Build-Out Population Based on Existing Zoning.

Residential Development Yield (from Table B-2)	**118,210 Acres**
Permitted Development Density, R-A, Residential-Agricultural District *Based on R-A Development Density of one dwelling/40,000 square foot lot.*	1 Dwelling Unit/Acre
Residential Households	118,210 Dwelling Units
Build-Out Population in Agriculture, Wooded Areas of Study Area *Assumes 2.53 persons per household based on 2000 U.S. Census figures.*	299,071 Persons
2002 Estimated Population, Stanly County *Based on 2000 U.S. Census figure of 58,100 plus 1.1 percent growth rate since April 2000.*	58,679 Persons
Build-Out Population *Build-out population excludes growth within existing municipal corporate boundaries and ETJs.*	357,750 Persons
Sources: U.S. Census Bureau, 2000. Woolpert LLP, 2002.	

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